Optiheat Duo

OH 1-44e – OH 1-85e
Brine/water

Technical documentation

AC Cooling Heating

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Technical data
Optiheat Duo

OH 1-44e to OH 1-58e, brine/water with Optiplus controller

Heat pump type	Optiheat 1-44e	Optiheat 1-50e	Optiheat 1-58e
Model	Duo	Duo	Duo
Controller Optiplus	integrated	integrated	integrated
WPZ-test number	CH-HP-00472		

Standard performance data (according to EN 14511)			W35	W45	W55	W35	W45	W55	W35	W45	W55
Heat output	at B0	kW	44	42	39	50	48	45	58	55	52
Performance data COP	at B0	(–)	4.7	3.6	2.9	4.7	3.6	2.8	4.8	3.6	2.8
Performance factor cos φ	at B0	(–)	0.76	0.82	0.86	0.70	0.77	0.83	0.74	0.80	0.84
El. power consumption	at B0	kW	9.4	11.5	13.8	10.5	13.1	15.8	12.1	15.3	18.4
Cooling output	at B0	kW	34	30	26	40	34	30	46	39	34

Energy class | performance data[4)]				
Energy efficiency class 35 °C | 55 °C		A+++ | A++	A+++ | A++	A+++ | A++
Rated thermal output P_{rated} 35 °C | 55 °C	kW	44 | 40	50 | 45	58 | 52
Energy efficiency η_s 35 °C | 55 °C	%	191 | 147	197 | 148	201 | 148
SCOP (according to EN 14825) 35 °C | 55 °C		5.0 | 3.9	5.1 | 3.9	5.2 | 3.9

Sound					
Sound power level	Lwa	dB(A)	approx. 68	approx. 70	approx. 70
Sound pressure level in 1 m[1)]	Lpa	dB(A)	approx. 53	approx. 55	approx. 55

Field of application, application limits			
Heat source temperature	min. | max.	°C	−6 | +25
Heat flow temperature at > B0	min. | max.	°C	+25 | +60 (max. 55 at continuous operation / constant temperature charging)
Heat flow temperature at B-6	min. | max.	°C	+25 | +56 (max. 51 at continuous operation / constant temperature charging)

Vaporiser, brine side (at B0/W35)											
Volume flow minimum | nominal | standard		m³/h	7.7 | 8.9 | 10.3			8.9 | 10.2 | 11.9			10.4 | 11.9 | 13.9		
Pressure drop via heat pump		kPa	5	7	9	6	8	12	6	8	10
Medium water | ethylene glycol		%	75 | 25			75 | 25			75 | 25		

Condenser, heater side (at B0/W35)											
Volume flow minimum | nominal | standard		m³/h	3.8 | 5.4 | 7.6			4.3 | 6.1 | 8.5			5.0 | 7.1 | 9.9		
Pressure drop via heat pump		kPa	2	4	9	3	6	11	3	6	12
Medium water		%	100			100			100		

Dimensions, connections, miscellaneous					
Dimensions	D × W × H	mm	760 × 1180 × 1232		
Total weight		kg	415	415	445
Heating circuit connection	Victaulic	inch	2 ½"	2 ½"	2 ½"
Heat source connection	Victaulic	inch	2 ½"	2 ½"	2 ½"
Cooling agent | filling quantity		– | kg	R-410A | 8.0	R-410A | 8.3	R-410A | 10.1
Refrigeration oil filling quantity		l	5.3	6.5	6.5
GWP | CO_2-e		– | t	2088 | 16.7	2088 | 17.3	2088 | 21.1

Technical data
Optiheat Duo

OH 1-44e – OH 1-58e, brine/water version with Optiplus controller

Heat pump type		**Optiheat 1-44e**	**Optiheat 1-50e**	**Optiheat 1-58e**
Model		**Duo**	**Duo**	**Duo**
Controller Optiplus		**integrated**	**integrated**	**integrated**
WPZ-test number		**CH-HP-00472**		

Electrical data				
Operating voltage, supply		3P / N / PE / 400 V / 50 Hz		
External fuse protection	AT	50 «C»	50 «C»	63 «C»
External fuse protection without circulation pumps	AT	50 «C»	50 «C»	63 «C»
Max. machine current[2) 3)]	A	38	43	49
Max. machine current without circulation pumps	A	31	36	41
Starting current direct per compressor (LRA)	A	95	111	118
Starting current with soft starter	A	46	53	57
Protection class	IP	20	20	20
Max. power consumption compressor	kW	17.8	20.5	23.2
Max. power consumption circulation pumps	kW	1.4	1.4	1.6
Max. power consumption total	kW	19.3	21.9	24.8
Heating pump outputs[2)]		P / N / PE	P / N / PE	P / N / PE
Source pump output[3)]		P / N / PE	P / N / PE	P / N / PE

1) reading averaged by the machine (free field)
2) heating pumps 1 × 230 V
3) source pump 1 × 230 V
4) energy class for climate range medium / space heating

Observe local conditions and regulation.

Technical data
Optiheat Duo

OH 1-65e to OH 1-85e, brine/water with Optiplus controller

Heat pump type	Optiheat 1-65e	Optiheat 1-72e	Optiheat 1-85e
Model	Duo	Duo	Duo
Controller Optiplus	integrated	integrated	integrated
WPZ-test number	CH-HP-00472		

Standard performance data (according to EN 14511)			W35	W45	W55	W35	W45	W55	W35	W45	W55
Heat output	at B0	kW	64	62	57	72	70	65	85	82	77
Performance data COP	at B0	(–)	4.7	3.6	2.8	4.6	3.6	2.9	4.6	3.6	2.9
Performance factor cos φ	at B0	(–)	0.77	0.81	0.84	0.76	0.81	0.85	0.68	0.73	0.77
El. power consumption	at B0	kW	13.8	17.2	20.2	15.5	19.1	22.5	18.6	22.6	26.3
Cooling output	at B0	kW	51	44	38	57	50	43	67	58	51

Energy class | performance data[4)]				
Energy efficiency class 35 °C | 55 °C		A+++ | A++	A+++ | A++	A+++ | A++
Rated thermal output P_{rated} 35 °C | 55 °C	kW	64 | 57	72 | 65	85 | 77
Energy efficiency η_s 35 °C | 55 °C	%	195 | 146	193 | 147	189 | 146
SCOP (according to EN 14825) 35 °C | 55 °C		5.1 | 3.8	5.0 | 3.9	4.9 | 3.9

Sound					
Sound power level	Lwa	dB(A)	approx. 71	approx. 72	approx. 73
Sound pressure level in 1 m[1)]	Lpa	dB(A)	approx. 56	approx. 57	approx. 58

Field of application, application limits			
Heat source temperature	min. | max.	°C	−6 | +25
Heat flow temperature at > B0	min. | max.	°C	+25 | +60 (max. 55 at continuous operation / constant temperature charging)
Heat flow temperature at B-6	min. | max.	°C	+25 | +56 (max. 51 at continuous operation / constant temperature charging)

Vaporiser, brine side (at B0/W35)											
Volume flow minimum | nominal | standard		m³/h	11.5 | 13.1 | 15.3			12.9 | 14.7 | 17.2			15.1 | 17.2 | 20.1		
Pressure drop via heat pump		kPa	7	9	12	6	8	10	8	10	14
Medium water | ethylene glycol		%	75 | 25			75 | 25			75 | 25		

Condenser, heater side (at B0/W35)											
Volume flow minimum | nominal | standard		m³/h	5.5 | 7.9 | 11.0			6.2 | 8.8 | 12.4			7.3 | 10.4 | 14.6		
Pressure drop via heat pump		kPa	4	8	15	3	6	12	4	8	16
Medium water		%	100			100			100		

Dimensions, connections, miscellaneous					
Dimensions	D × W × H	mm	760 × 1180 × 1232		
Total weight		kg	445	475	475
Heating circuit connection	Victaulic	inch	2 ½"	2 ½"	2 ½"
Heat source connection	Victaulic	inch	2 ½"	2 ½"	2 ½"
Cooling agent | filling quantity		– | kg	R-410A | 10.1	R-410A | 10.6	R-410A | 10.6
Refrigeration oil filling quantity		l	6.5	6.5	6.8
GWP | CO_2-e		– | t	2088 | 21.1	2088 | 22.1	2088 | 22.1

Technical data
Optiheat Duo

OH 1-65e – OH 1-85e, brine/water version with Optiplus controller

Heat pump type	**Optiheat 1-65e**	**Optiheat 1-72e**	**Optiheat 1-85e**
Model	**Duo**	**Duo**	**Duo**
Controller Optiplus	**integrated**	**integrated**	**integrated**
WPZ-test number	**CH-HP-00472**		

Electrical data				
Operating voltage, supply		3P / N / PE / 400 V / 50 Hz		
External fuse protection	AT	63 «C»	80 «C»	100 «C»
External fuse protection without circulation pumps	AT	63 «C»	80 «C»	80 «C»
Max. machine current[2) 3)]	A	53	60	73
Max. machine current without circulation pumps	A	46	53	64
Starting current direct per compressor (LRA)	A	118	140	174
Starting current with soft starter	A	57	67	84
Protection class	IP	20	20	20
Max. power consumption compressor	kW	26.1	29.5	34.0
Max. power consumption circulation pumps	kW	1.6	1.6	2.0
Max. power consumption total	kW	27.7	31.1	36.0
Heating pump outputs[2)]		P / N / PE	P / N / PE	P / N / PE
Source pump output[3)]		P / N / PE	P / N / PE	P / N / PE

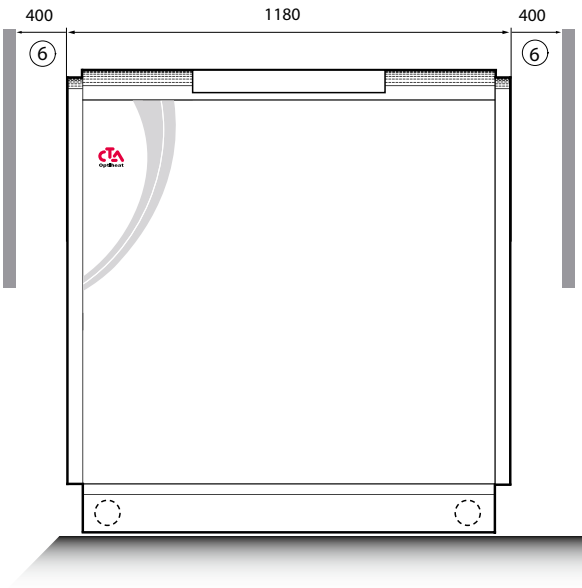
1) reading averaged by the machine (free field)
2) heating pumps 1 × 230 V
3) source pump 1 × 230 V
4) energy class for climate range medium / space heating

Observe local conditions and regulation.

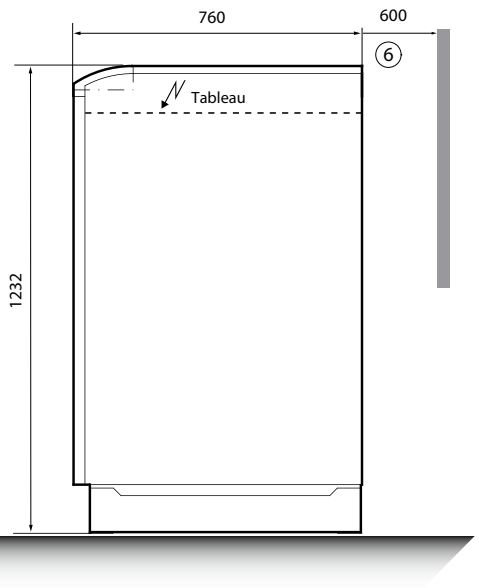
Dimension drawing
Optiheat Duo

OH 1-44e to OH 1-85e, brine/water

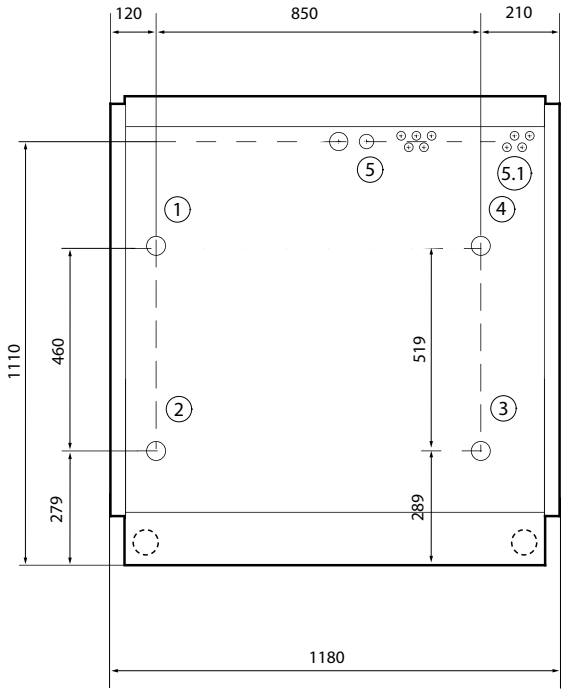
Front view



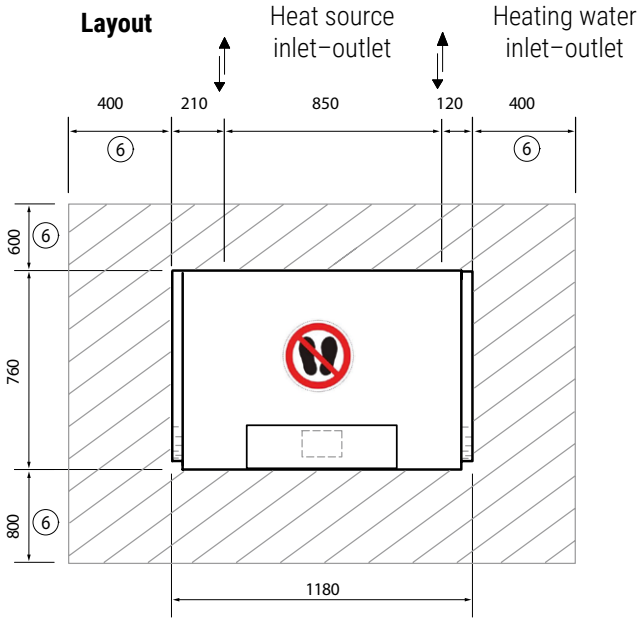
Lateral view



Connection side



Layout



Legend

1 Heating water outlet 2½» Victaulic
2 Heating water inlet 2½» Victaulic
3 Heat source outlet 2½» Victaulic
4 Heat source inlet 2½» Victaulic
5 Electric connections
5.1 Sensor connections
6 Minimum distances

The external sensor (QAC 34/101) and the documents are enclosed in the electric panel.

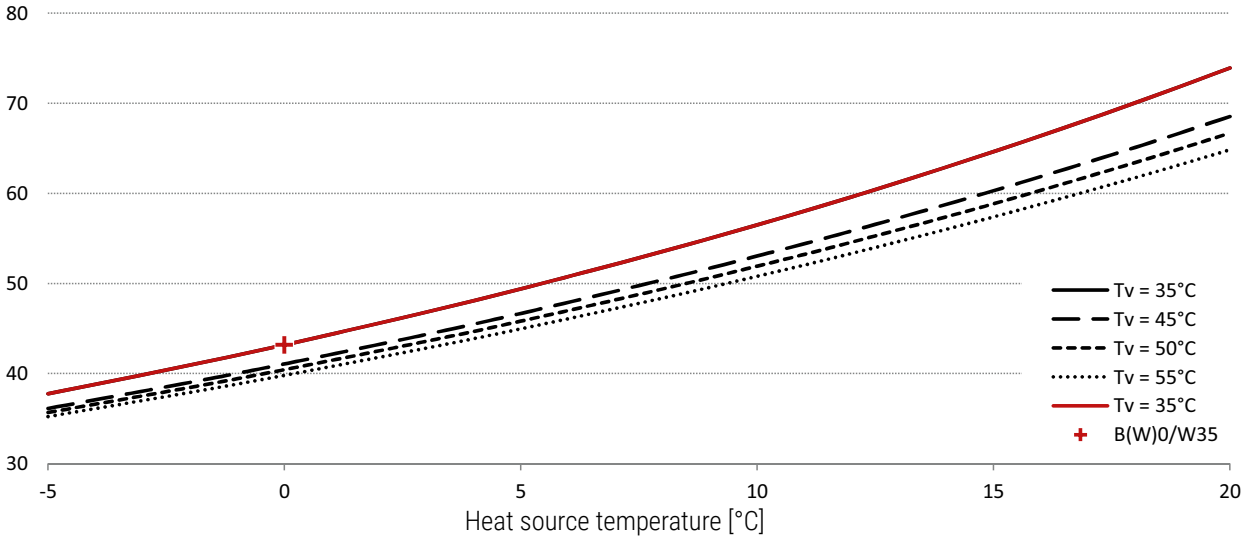
All dimensions are in mm

Power curves
Optiheat OH 1-44e

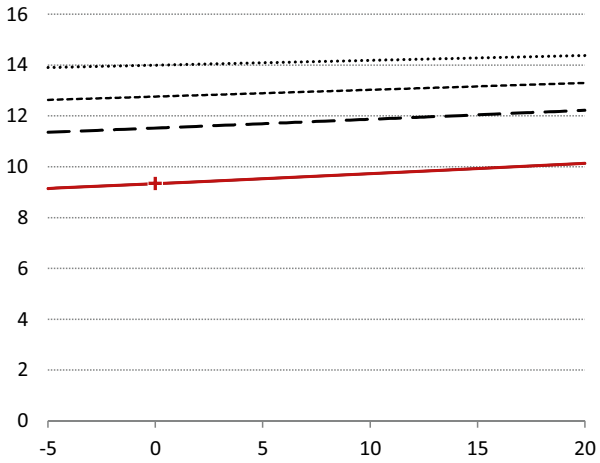
Volume flow source minimum / nominal / standard **7.9/8.9/10.3 m³/h**
Volume flow heater minimum / nominal / standard **3.7/5.3/7.5 m³/h**

Performance data as per EN 14511, with 2 compressors in operation.

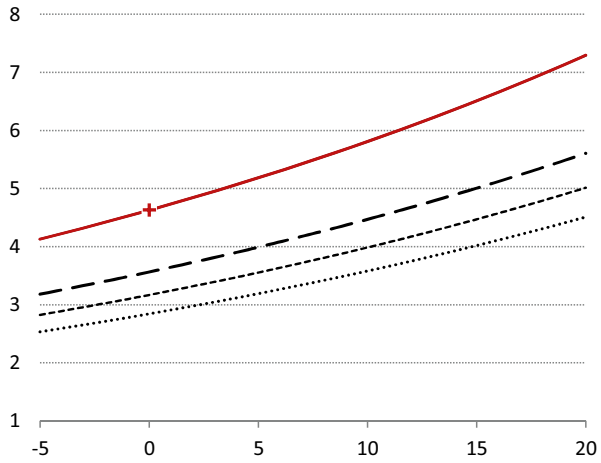
Heat output in kW



Electric output in kW



Performance data COP

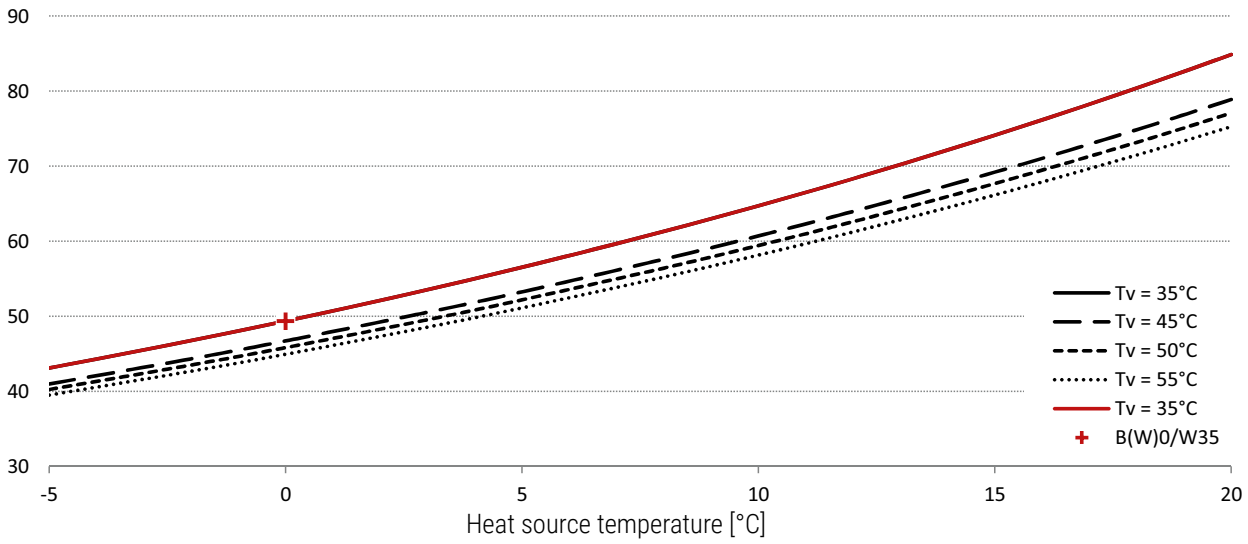


Power curves
Optiheat OH 1-50e

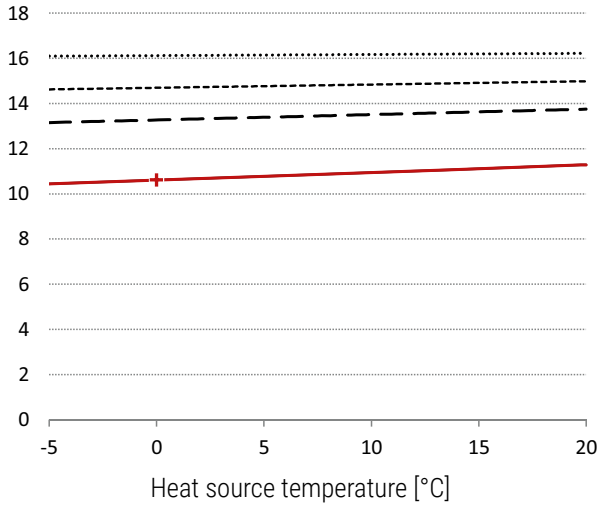
Volume flow source minimum / nominal / standard **8.9/10.2/11.9 m³/h**
Volume flow heater minimum / nominal / standard **4.3/6.1/8.5 m³/h**

Performance data as per EN 14511, with 2 compressors in operation.

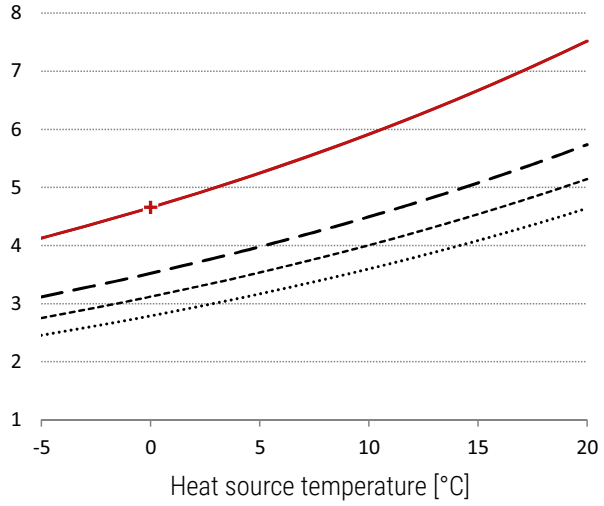
Heat output in kW



Electric output in kW



Performance data COP

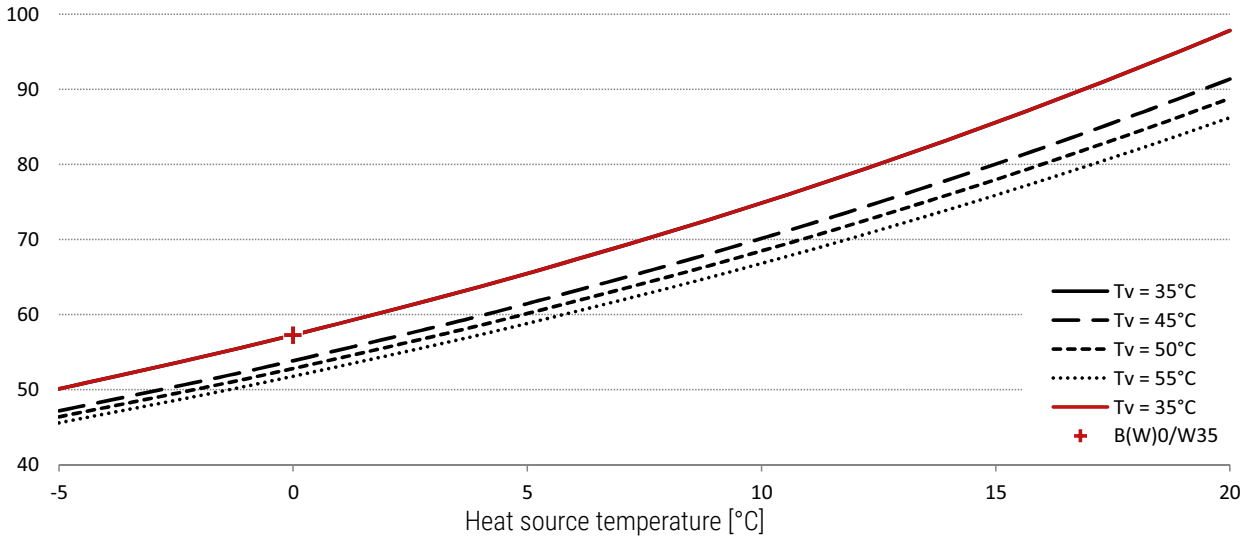


Power curves
Optiheat OH 1-58e

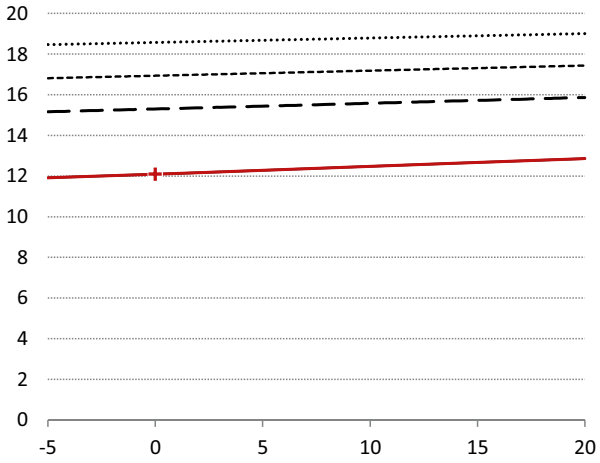
Volume flow source minimum / nominal / standard **10.4/11.9/13.9 m³/h**
Volume flow heater minimum / nominal / standard **5.0/7.1/9.9 m³/h**

Performance data as per EN 14511, with 2 compressors in operation.

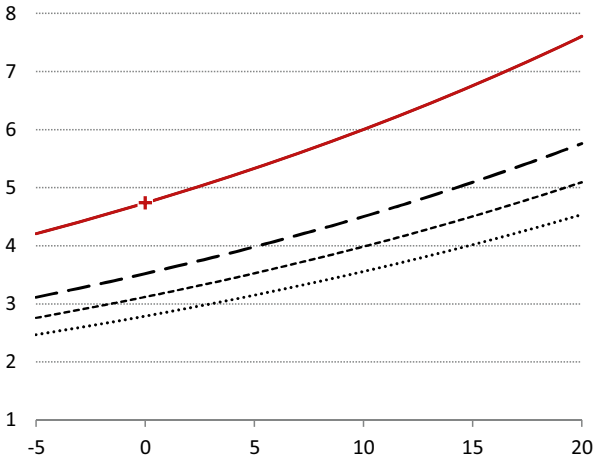
Heat output in kW



Electric output in kW



Performance data COP

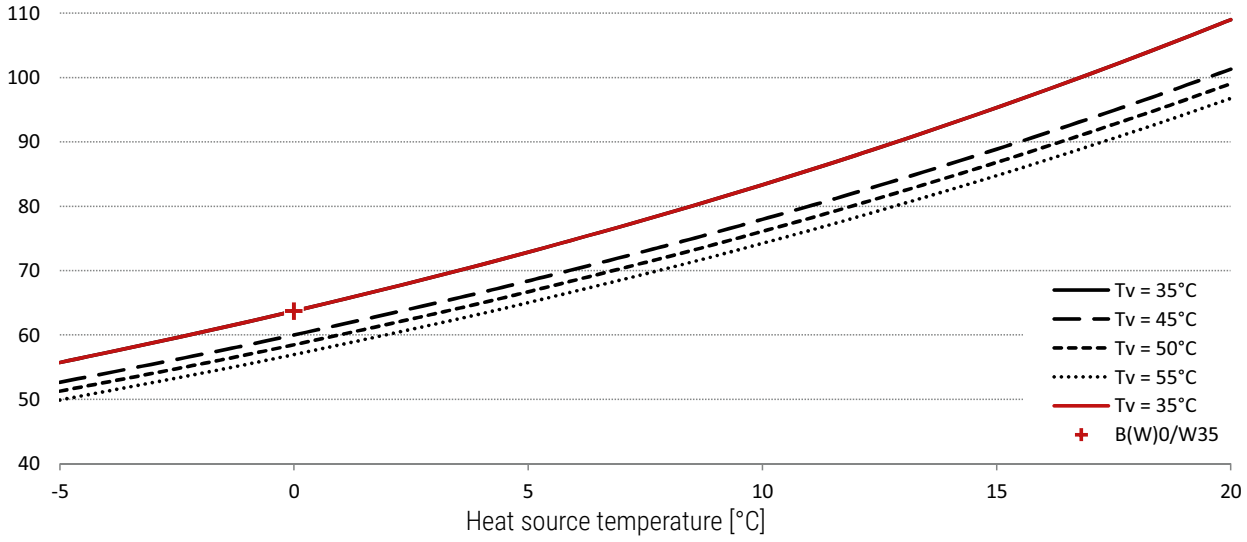


Power curves
Optiheat OH 1-65e

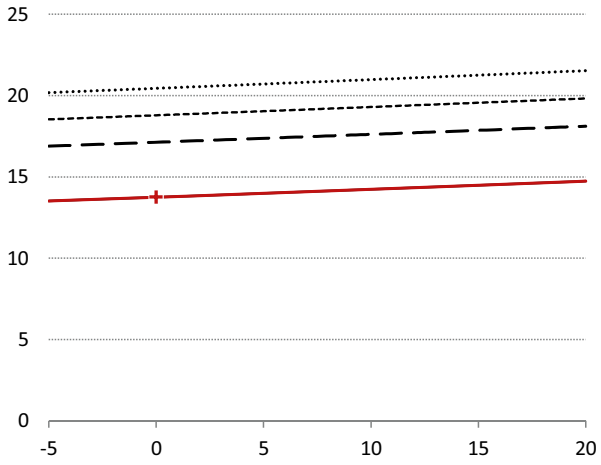
Volume flow source minimum / nominal / standard **11.5/13.1/15.3 m³/h**
Volume flow heater minimum / nominal / standard **5.5/7.9/11.0 m³/h**

Performance data as per EN 14511, with 2 compressors in operation.

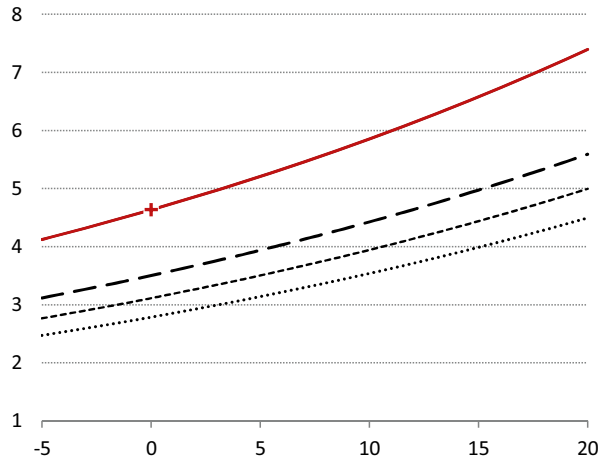
Heat output in kW



Electric output in kW



Performance data COP

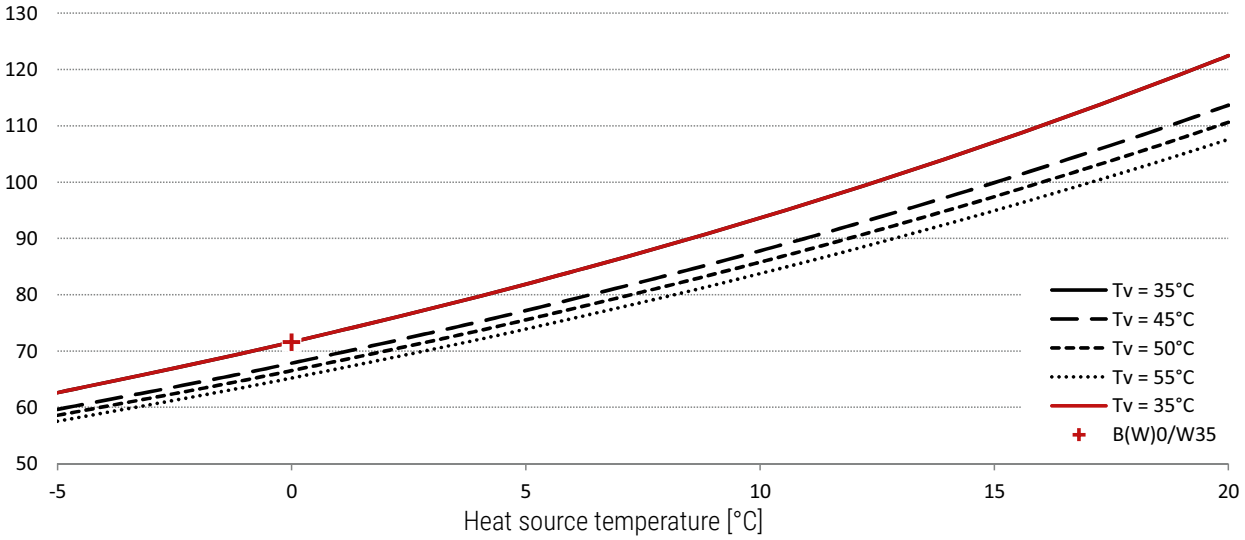


Power curves
Optiheat OH 1-72e

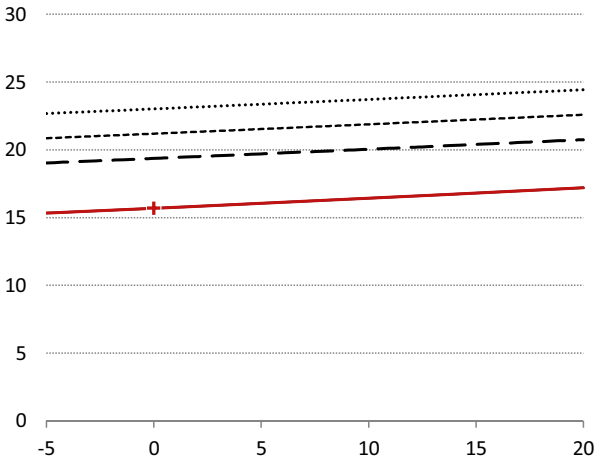
Volume flow source minimum / nominal / standard **12.9/14.7/17.2 m³/h**
Volume flow heater minimum / nominal / standard **6.2/8.8/12.4 m³/h**

Performance data as per EN 14511, with 2 compressors in operation.

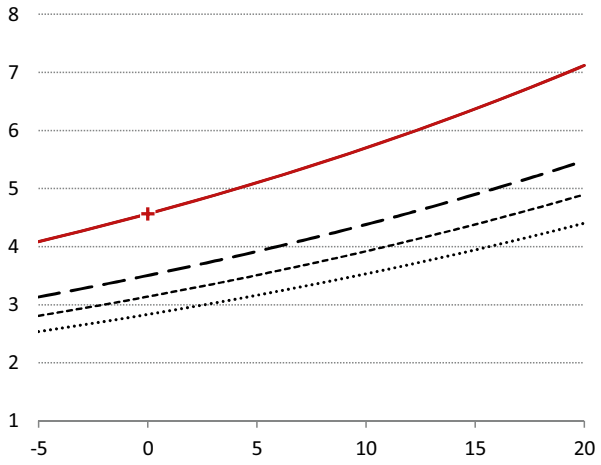
Heat output in kW



Electric output in kW



Performance data COP

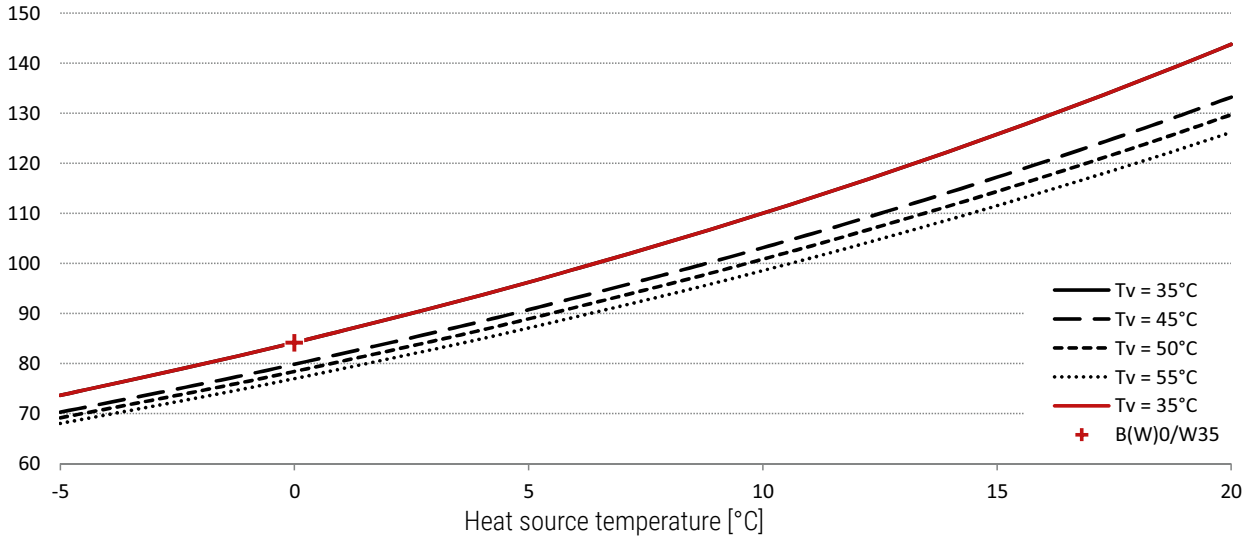


Power curves
Optiheat OH 1-85e

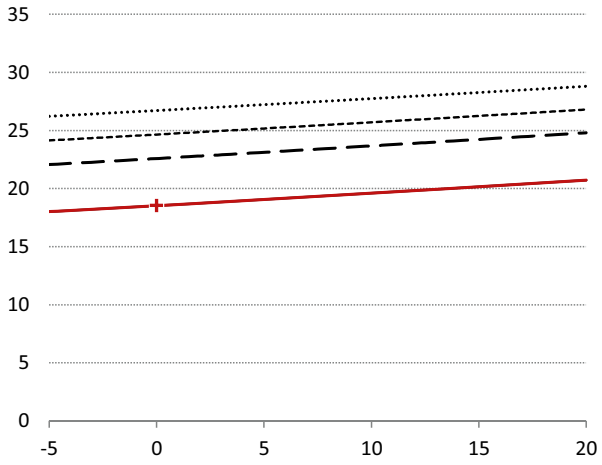
Volume flow source minimum / nominal / standard **15.1/17.2/20.1 m³/h**
Volume flow heater minimum / nominal / standard **7.3/10.4/14.6 m³/h**

Performance data as per EN 14511, with 2 compressors in operation.

Heat output in kW



Electric output in kW



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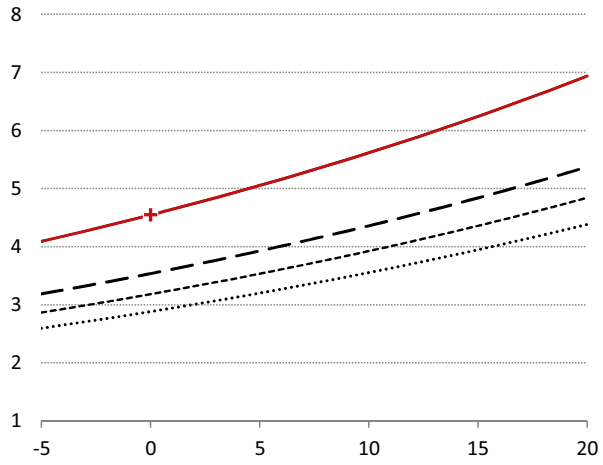
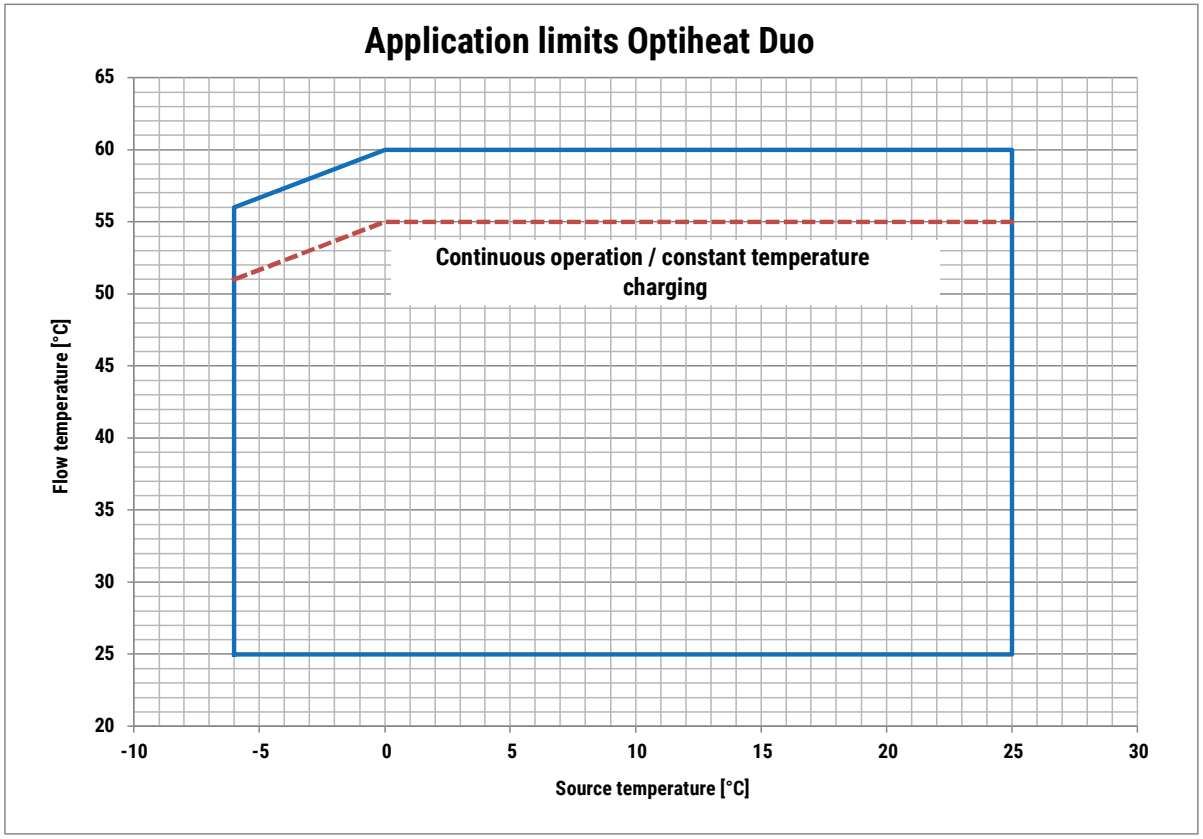
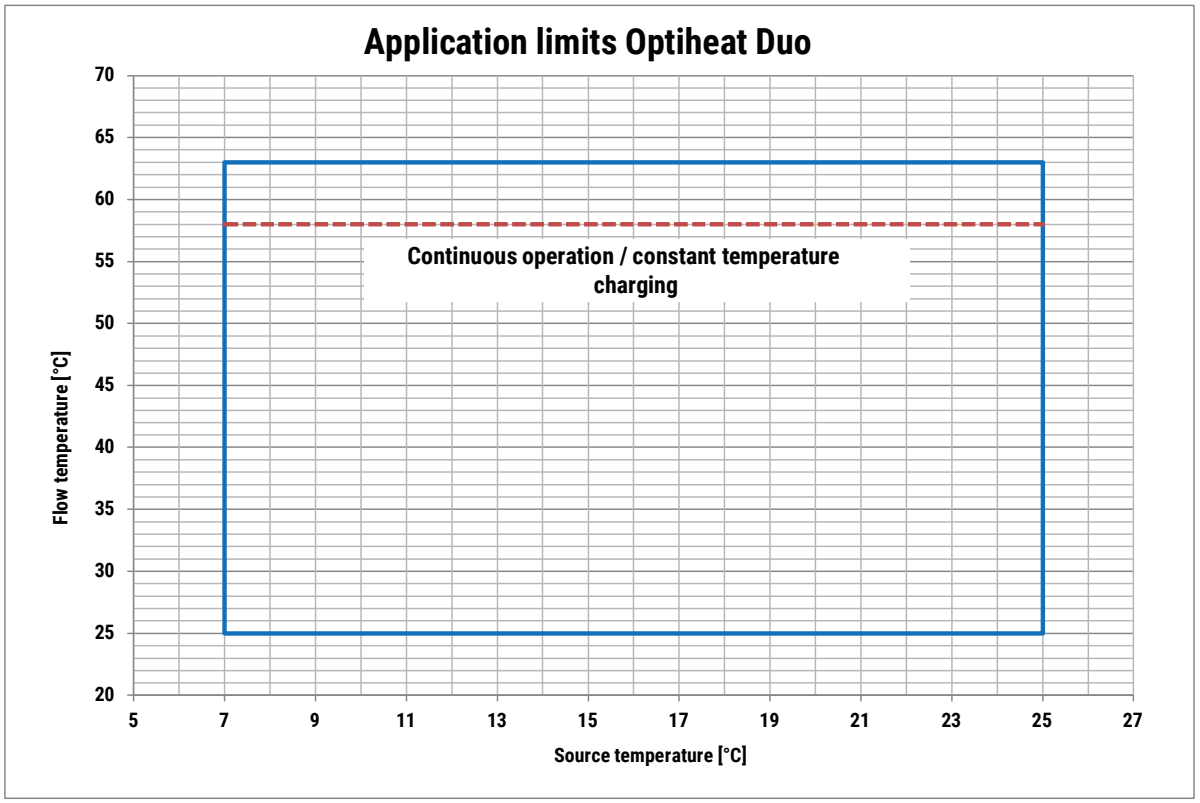


Application limits
Optiheat Duo





Function description

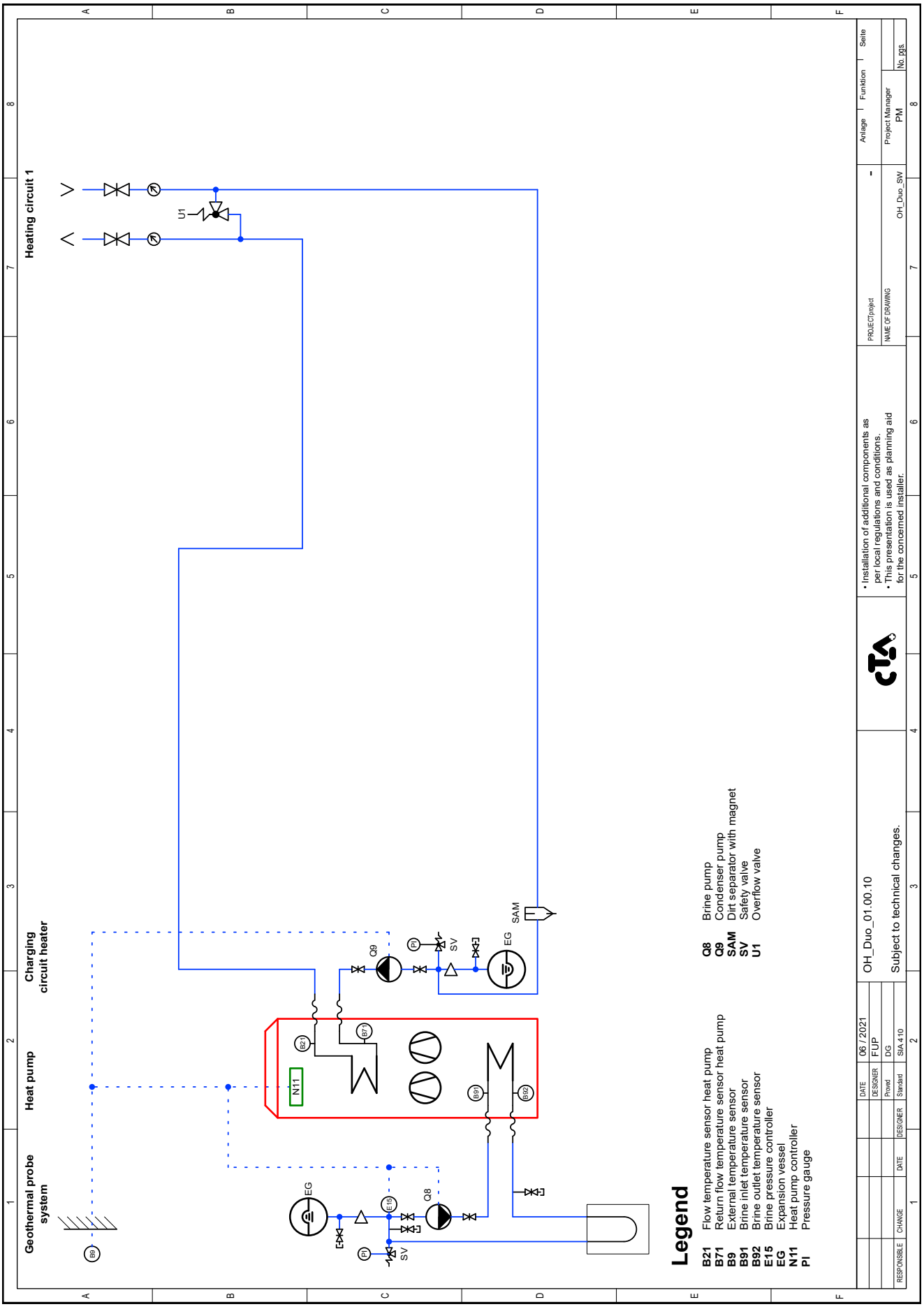
Heat pump
Start the heat pump via the external temperature sensor B9. Depending on the hydraulic integration, this works directly on the buffer storage or directly in the heating circulation. Depending on the heat demand, the heat pump is switched on and off via the temperature sensors B4/B41 or B71.
The heat pump has a restart delay in order to prevent wobbling. In case of direct heat operation (e. g. underfloor heating), the condenser pump Q9 is in operation during the entire heating period.

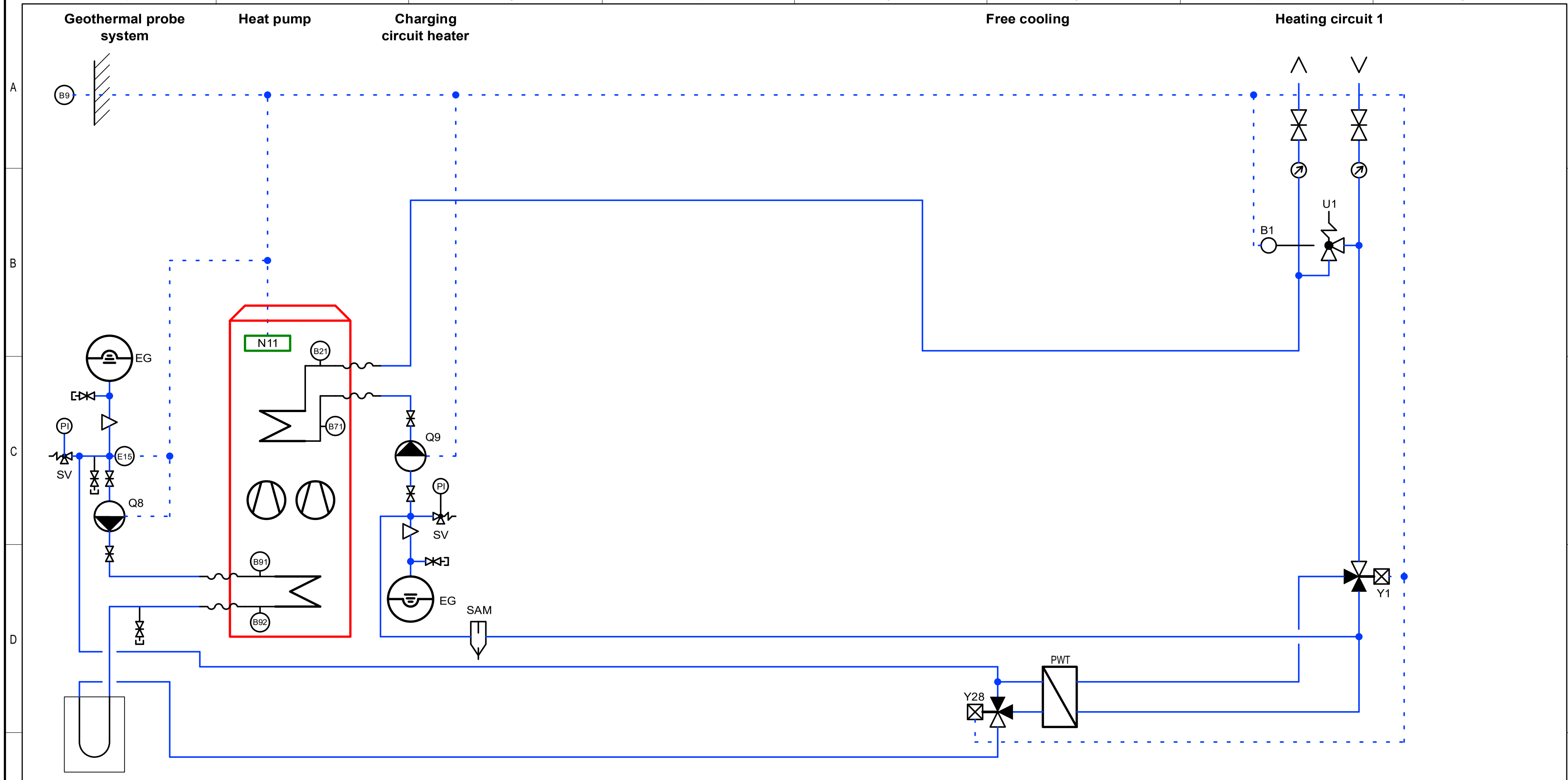
DHW charging
DHW is charged according to the time program to the respective setpoint value. Charge is released via the temperature sensor B3, and the deflector valve Q3 is switched. The electrical heating element K6 in the DHW storage is released by the heat pump controller (further release necessary).
An external heat exchanger is used for DHW storage without internal register. Two additional temperature sensors B31 and B36 must be installed for controlling the intermediate circuit pump Q33.

Buffer storage
If a buffer storage is used in the hydraulic system, the heat generator side and consumer side are decoupled. The storage is used to bridge heat generator locks. The setpoint value of the storage is calculated by the maximum demand of the consumer groups.

Discharge control
The setpoint value for the heating flow is calculated with the current outside temperature and the set heating curve. The discharge control adjusts the flow temperature B1 with the mixing valve Y1 to this setpoint value. The discharge pump Q2 is in operation during the entire heating period.

Free cooling
For passive cooling, cooling is done without operating a cooling generator. Heat is returned to the connected source (soil sensor or ground water).
For cooling requirement, the source circuit is controlled by means of the deflector valves Y28 and Y21 (in case of mixed discharge group) via the plate heat exchanger (PWT).
The heat pump controller runs a cooling curve via the external temperature B9, this is controlled with the mixer Y1 and the flow temperature B1. For available room thermostat valves, these must be adaptable for the cooling as well as the heating operation.


Heating circuit 1
Geothermal probe system
Heat pump
Charging circuit heater
U1
SAM
EG
Q9
SV
N11
B21
B71
B91
B92
B9
EG
E15
Q8
SV
Legend
B21 Flow temperature sensor heat pump
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor
E15 Brine pressure controller
EG Expansion vessel
N11 Heat pump controller
PI Pressure gauge
Q8 Brine pump
Q9 Condenser pump
SAM Dirt separator with magnet
SV Safety valve
U1 Overflow valve
OH_Duo_01.00.10
Subject to technical changes.
• Installation of additional components as per local regulations and conditions.
• This presentation is used as planning aid for the concerned installer.
PROJECTproject
NAME OF DRAWING
OH_Duo_SW
Project Manager
PM
DATE
DESIGNER
Proved
Standard
RESPONSIBLE
CHANGE
DATE
DESIGNER
06 / 2021
FUP
DG
SIA 410



Legend

B1	Flow temperature sensor heating circuit 1
B21	Flow temperature sensor heat pump
B71	Return flow temperature sensor heat pump
B9	External temperature sensor
B91	Brine inlet temperature sensor
B92	Brine outlet temperature sensor
E15	Brine pressure controller
EG	Expansion vessel
N11	Heat pump controller
PI	Pressure gauge
PWT	Plate heat exchanger
Q8	Brine pump
Q9	Condenser pump
SAM	Dirt separator with magnet
SV	Safety valve
Y1	Mixer for cooling circuit 230 V
Y28	Deflector valve 230 V source side

RESPONSIBLE	CHANGE	DATE	DESIGNER	DATE	06 / 2021
				DESIGNER	FUP
				Proved	DG
				Standard	SIA 410

OH_Duo_01.00.10_E5

Subject to technical changes.

- Installation of additional components as per local regulations and conditions.
- This presentation is used as planning aid for the concerned installer.

PROJECTproject -

NAME OF DRAWING OH_Duo_SW

Anlage | Funktion | Seite

Project Manager PM

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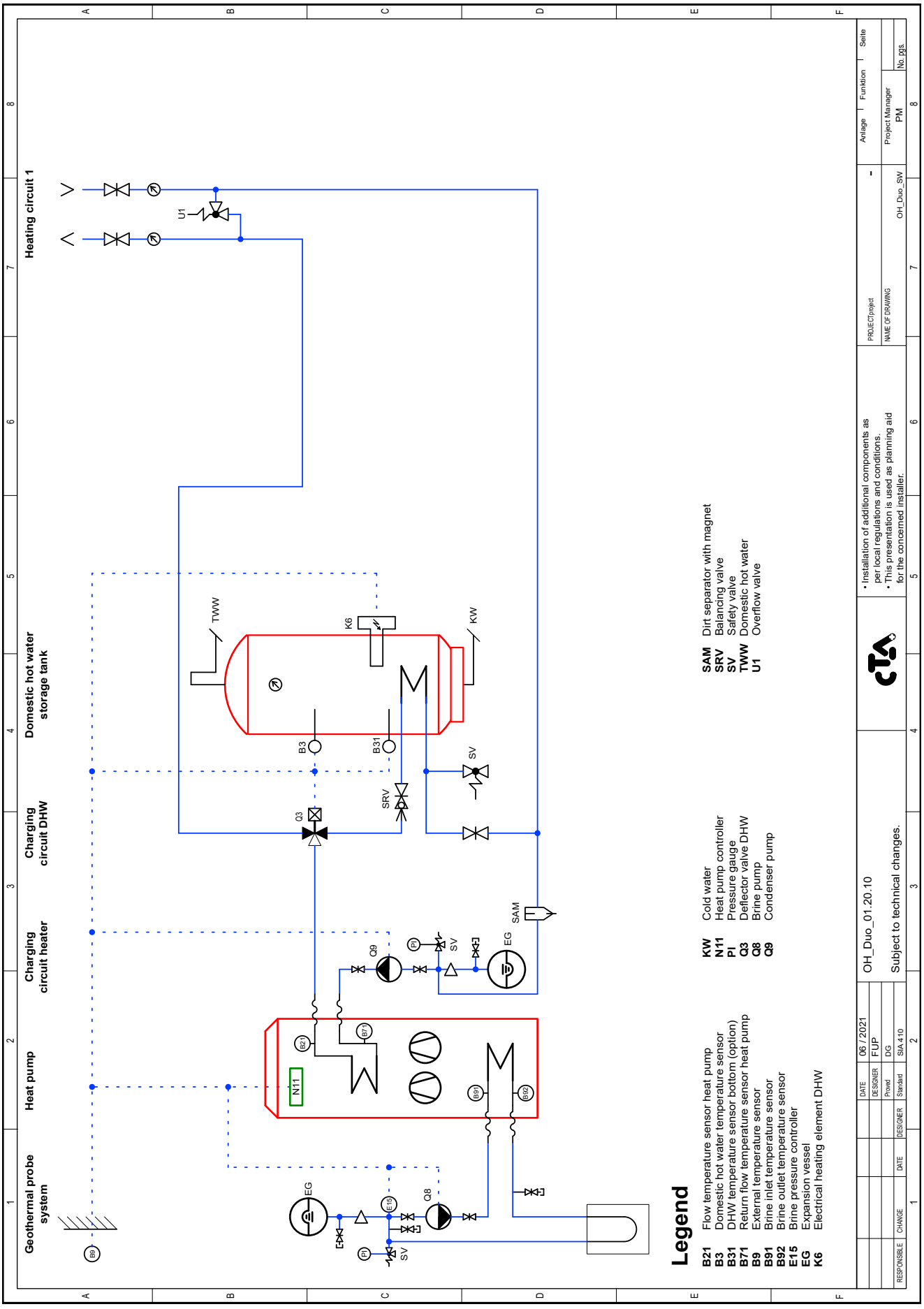
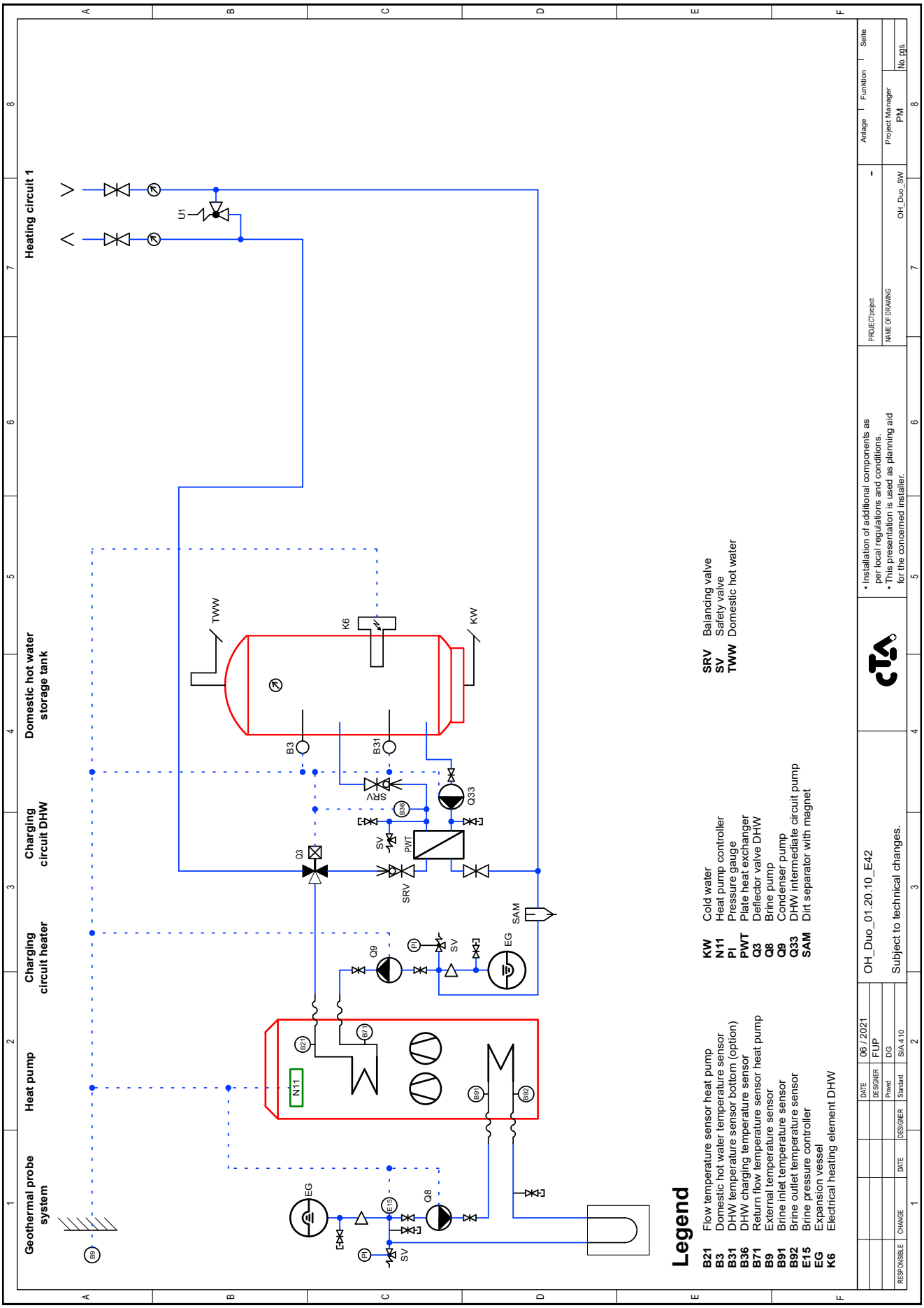
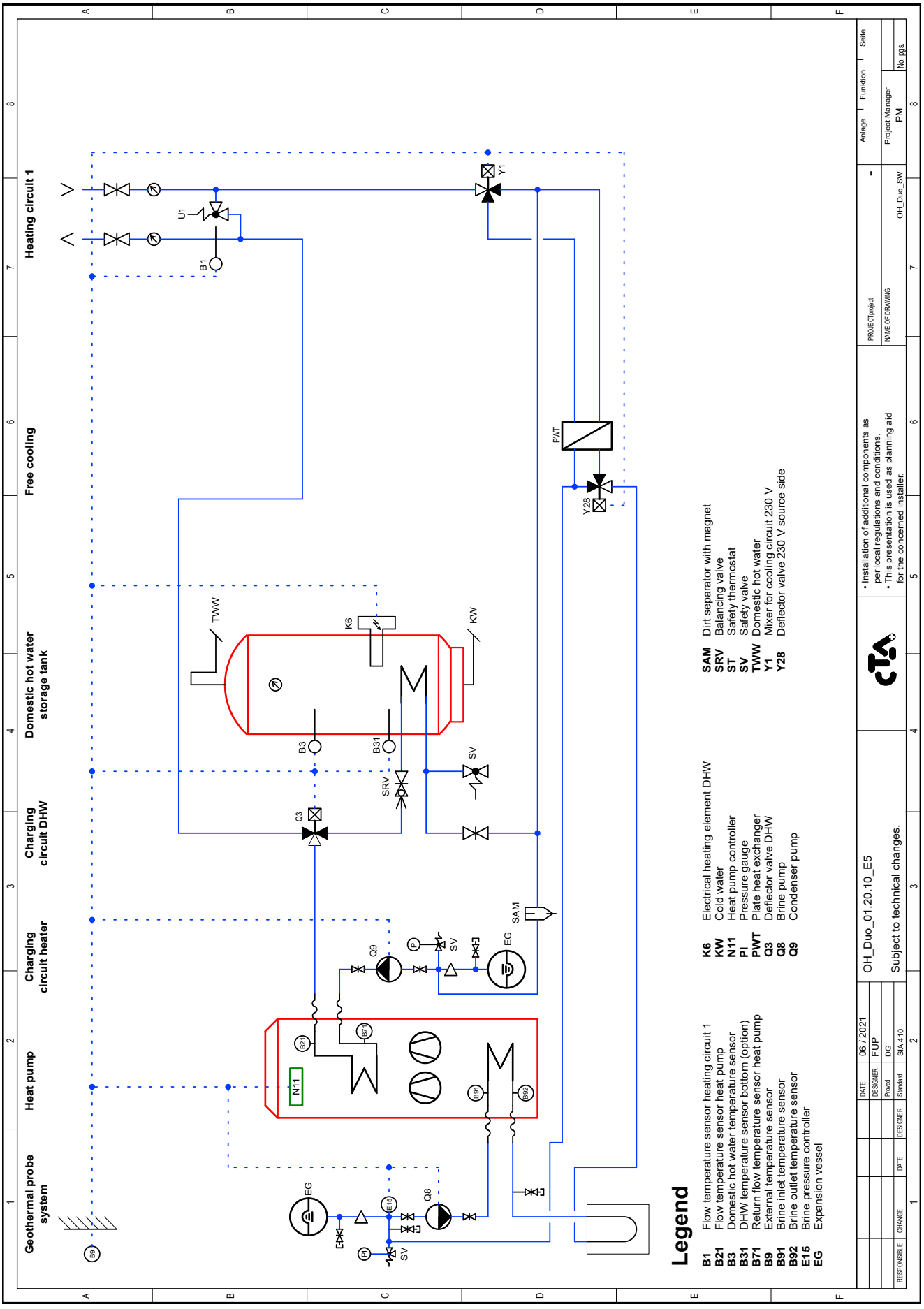
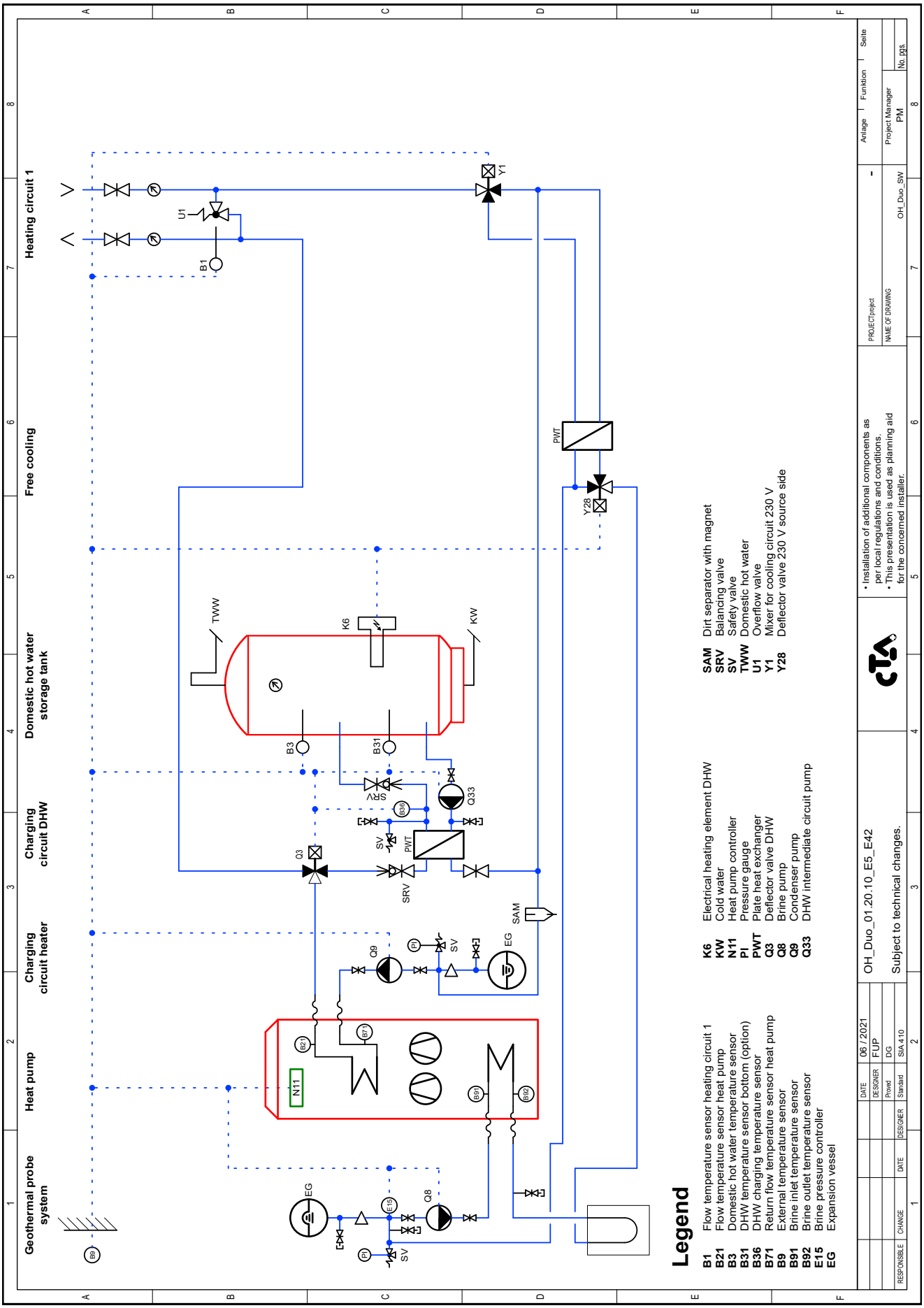

Geothermal probe system
Heat pump
Charging circuit heater
Charging circuit DHW
Domestic hot water storage tank
Heating circuit 1
Legend
B21 Flow temperature sensor heat pump
B3 Domestic hot water temperature sensor
B31 DHW temperature sensor bottom (option)
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor
E15 Brine pressure controller
EG Expansion vessel
K6 Electrical heating element DHW
KW Cold water
N11 Heat pump controller
PI Pressure gauge
Q3 Deflector valve DHW
Q8 Brine pump
Q9 Condenser pump
SAM Dirt separator with magnet
SRV Balancing valve
SV Safety valve
TWW Domestic hot water
U1 Overflow valve
• Installation of additional components as per local regulations and conditions.
• This presentation is used as planning aid for the concerned installer.
OH_Duo_01.20.10
Subject to technical changes.
OH_Duo_SW
Project Manager PM


Geothermal probe system
Heat pump
Charging circuit heater
Charging circuit DHW
Domestic hot water storage tank
Heating circuit 1
Legend
B21 Flow temperature sensor heat pump
B3 Domestic hot water temperature sensor
B31 DHW temperature sensor bottom (option)
B36 DHW charging temperature sensor
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor
E15 Brine pressure controller
EG Expansion vessel
K6 Electrical heating element DHW
KW Cold water
N11 Heat pump controller
PI Pressure gauge
PWT Plate heat exchanger
Q3 Deflector valve DHW
Q8 Brine pump
Q9 Condenser pump
Q33 DHW intermediate circuit pump
SAM Dirt separator with magnet
SRV Balancing valve
SV Safety valve
TWW Domestic hot water
• Installation of additional components as per local regulations and conditions.
• This presentation is used as planning aid for the concerned installer.
OH_Duo_01.20.10_E42
Subject to technical changes.
OH_Duo_SW
Project Manager PM


Geothermal probe system
Heat pump
Charging circuit heater
Charging circuit DHW
Domestic hot water storage tank
Free cooling
Heating circuit 1
Legend
B1 Flow temperature sensor heating circuit 1
B21 Flow temperature sensor heat pump
B3 Domestic hot water temperature sensor
B31 DHW temperature sensor bottom (option)
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor
E15 Brine pressure controller
EG Expansion vessel
K6 Electrical heating element DHW
KW Cold water
N11 Heat pump controller
PI Pressure gauge
PWT Plate heat exchanger
Q3 Deflector valve DHW
Q8 Brine pump
Q9 Condenser pump
SAM Dirt separator with magnet
SRV Balancing valve
ST Safety thermostat
SV Safety valve
TWW Domestic hot water
Y1 Mixer for cooling circuit 230 V
Y28 Deflector valve 230 V source side
• Installation of additional components as per local regulations and conditions.
• This presentation is used as planning aid for the concerned installer.
OH_Duo_01.20.10_E5
Subject to technical changes.
OH_Duo_SW
Project Manager PM


Geothermal probe system
Heat pump
Charging circuit heater
Charging circuit DHW
Domestic hot water storage tank
Free cooling
Heating circuit 1
Legend
B1 Flow temperature sensor heating circuit 1
B21 Flow temperature sensor heat pump
B3 Domestic hot water temperature sensor
B31 DHW temperature sensor bottom (option)
B36 DHW charging temperature sensor
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor
E15 Brine pressure controller
EG Expansion vessel
K6 Electrical heating element DHW
KW Cold water
N11 Heat pump controller
PI Pressure gauge
PWT Plate heat exchanger
Q3 Deflector valve DHW
Q8 Brine pump
Q9 Condenser pump
Q33 DHW intermediate circuit pump
SAM Dirt separator with magnet
SRV Balancing valve
SV Safety valve
TWW Domestic hot water
U1 Overflow valve
Y1 Mixer for cooling circuit 230 V
Y28 Deflector valve 230 V source side
• Installation of additional components as per local regulations and conditions.
• This presentation is used as planning aid for the concerned installer.
OH_Duo_01.20.10_E5_E42
Subject to technical changes.
OH_Duo_SW
Project Manager PM
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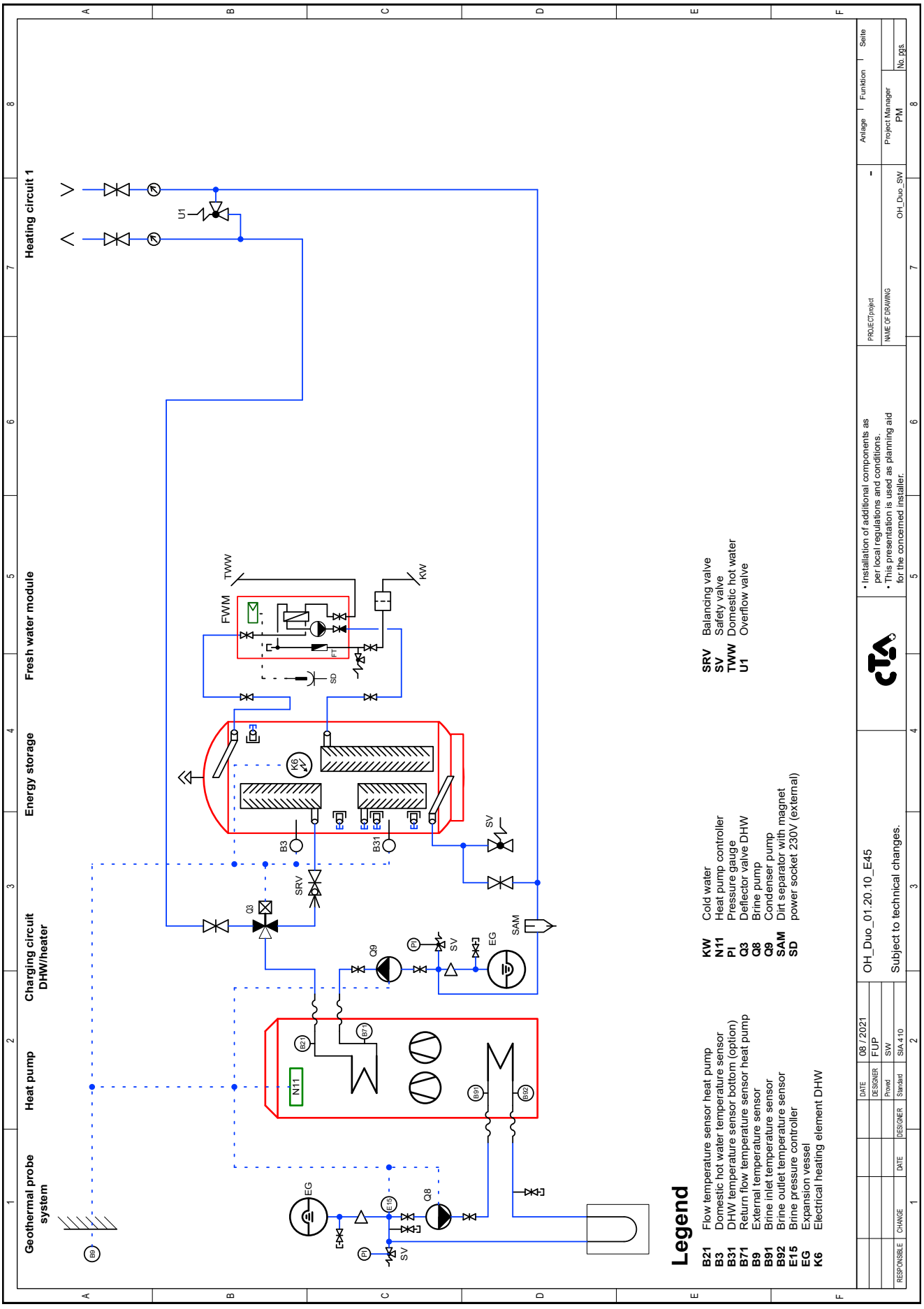
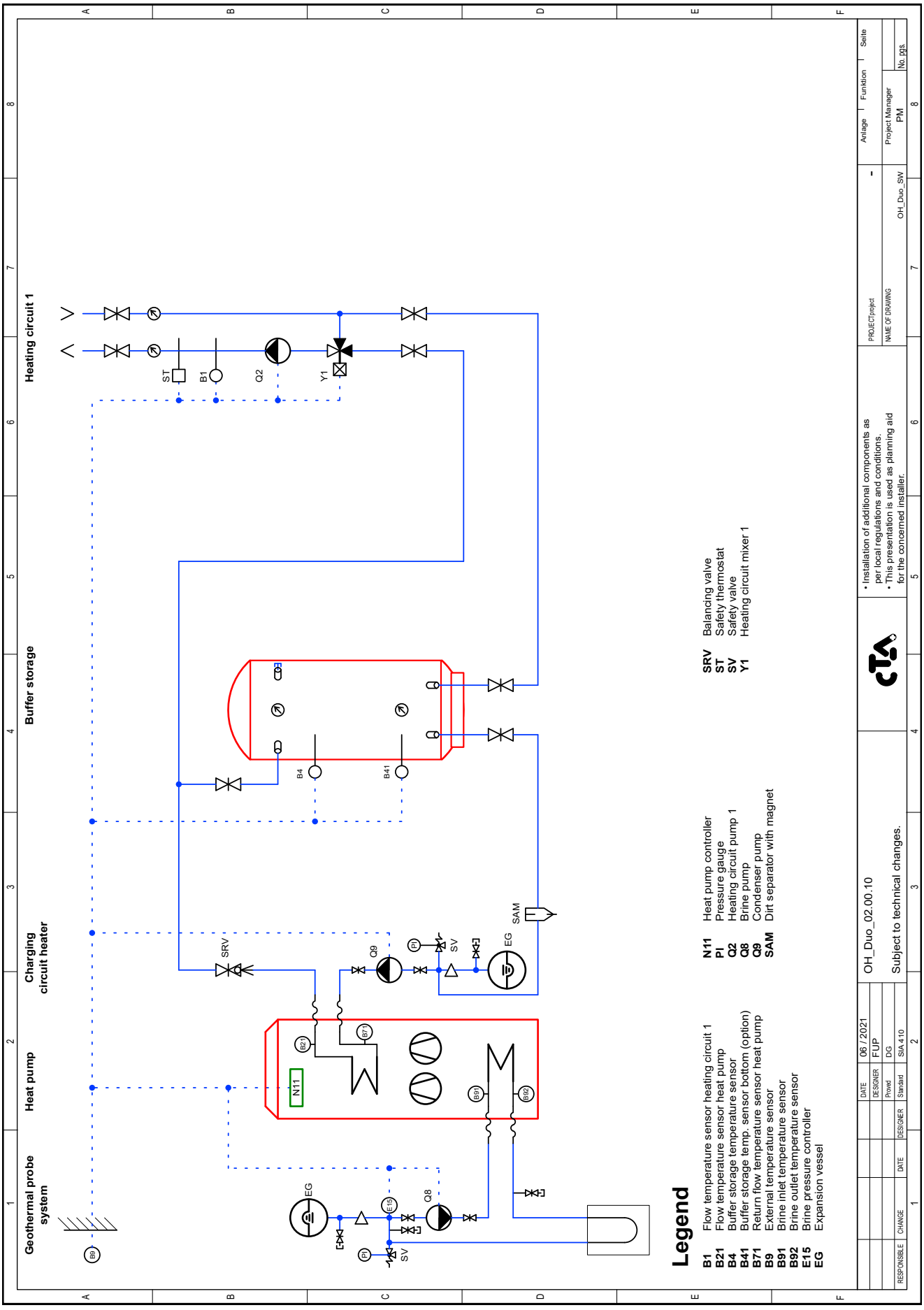
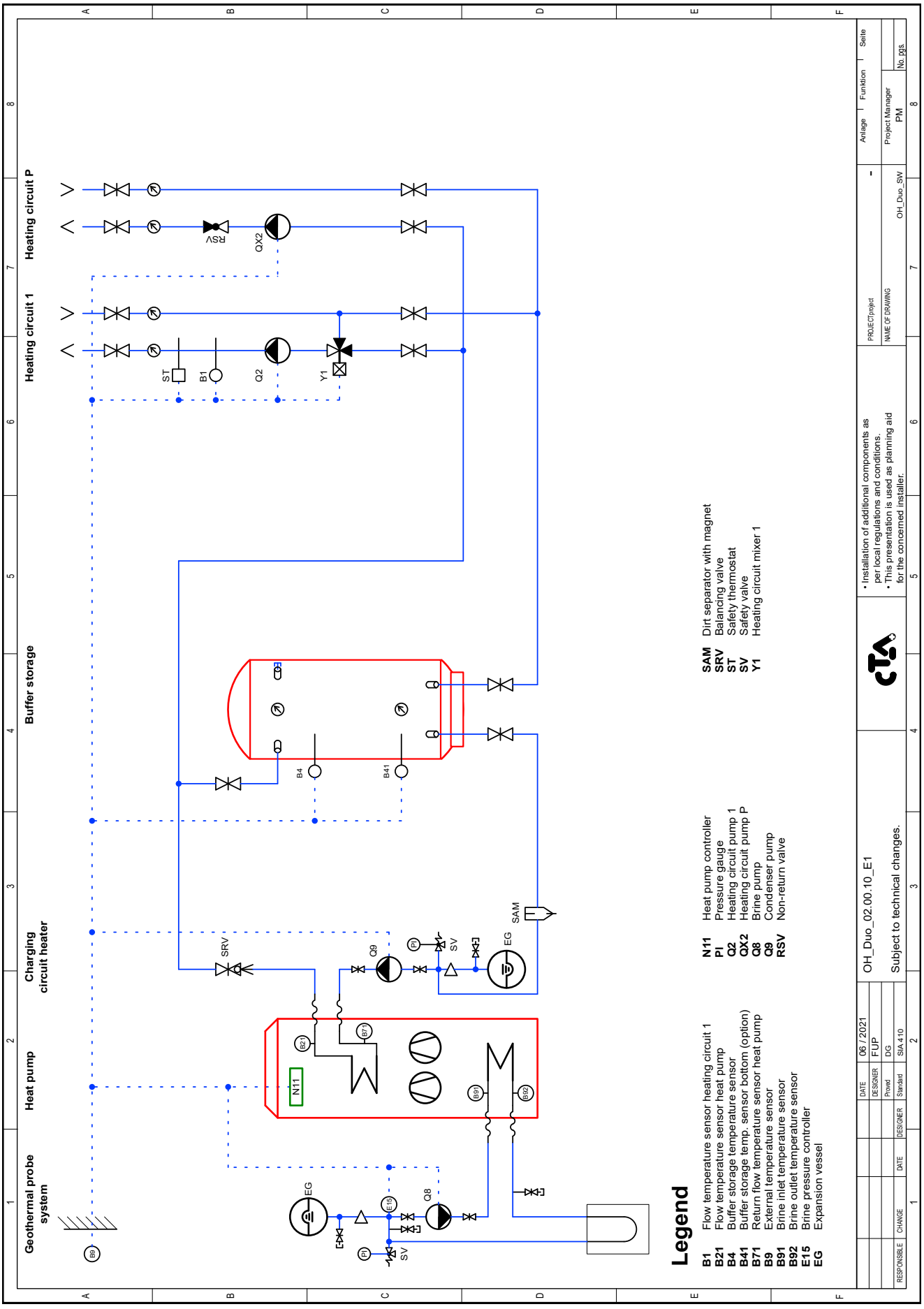
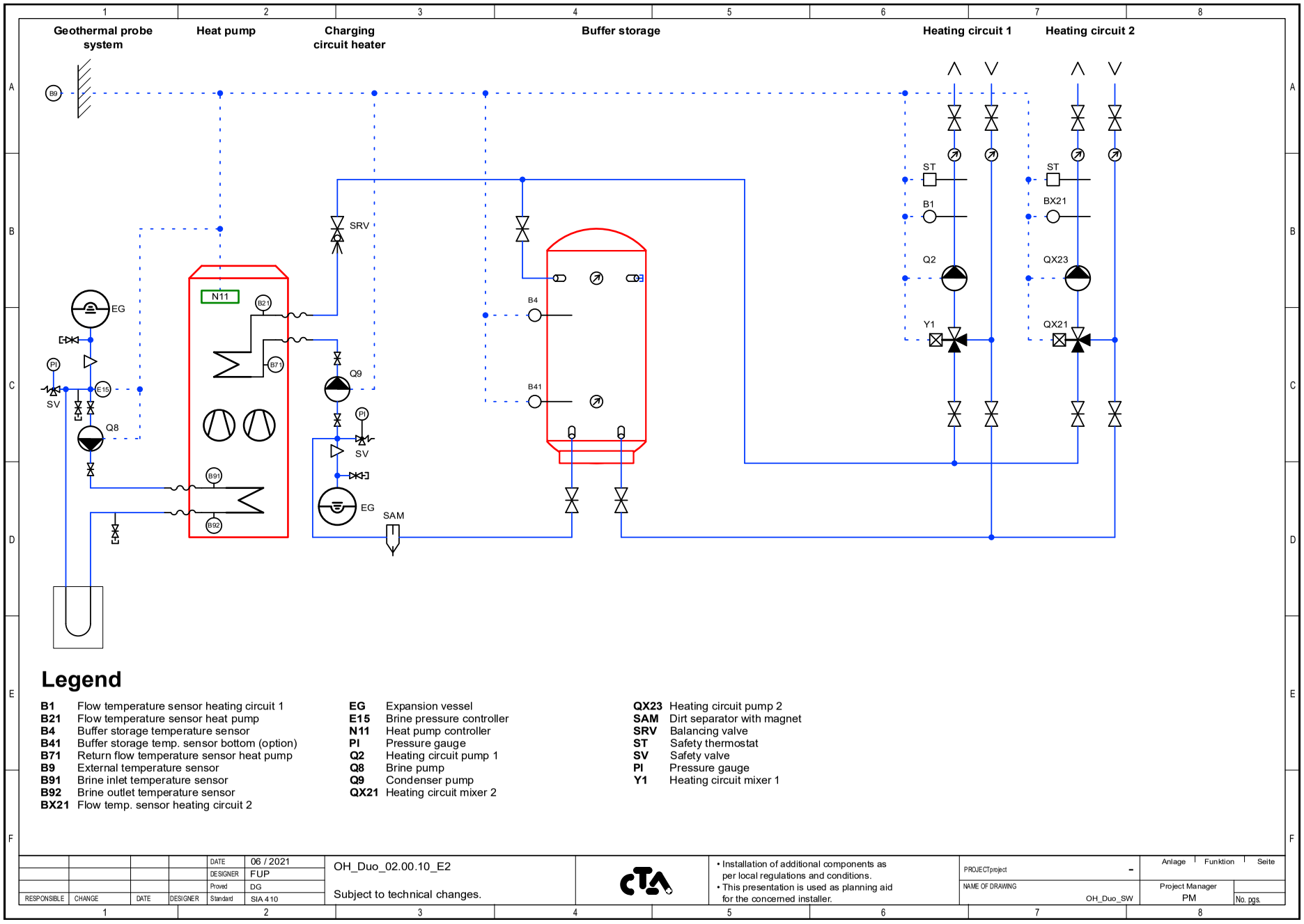

Geothermal probe system
Heat pump
Charging circuit DHW/heater
Energy storage
Fresh water module
Heating circuit 1
U1
TWW
KW
FWM
FT
SD
K6
B3
B31
SRV
SV
Q3
Q9
Q8
EG
SAM
N11
B21
B71
B91
B92
E15
B9
Legend
B21 Flow temperature sensor heat pump
B3 Domestic hot water temperature sensor
B31 DHW temperature sensor bottom (option)
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor
E15 Brine pressure controller
EG Expansion vessel
K6 Electrical heating element DHW
KW Cold water
N11 Heat pump controller
PI Pressure gauge
Q3 Deflector valve DHW
Q8 Brine pump
Q9 Condenser pump
SAM Dirt separator with magnet
SD power socket 230V (external)
SRV Balancing valve
SV Safety valve
TWW Domestic hot water
U1 Overflow valve
• Installation of additional components as per local regulations and conditions.
• This presentation is used as planning aid for the concerned installer.
OH_Duo_01.20.10_E45
Subject to technical changes.
08 / 2021
FUP
SW
SIA 410
OH_Duo_SW
Project Manager PM


Geothermal probe system
Heat pump
Charging circuit heater
Buffer storage
Heating circuit 1
Legend
B1 Flow temperature sensor heating circuit 1
B21 Flow temperature sensor heat pump
B4 Buffer storage temperature sensor
B41 Buffer storage temp. sensor bottom (option)
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor
E15 Brine pressure controller
EG Expansion vessel
N11 Heat pump controller
PI Pressure gauge
Q2 Heating circuit pump 1
Q8 Brine pump
Q9 Condenser pump
SAM Dirt separator with magnet
SRV Balancing valve
ST Safety thermostat
SV Safety valve
Y1 Heating circuit mixer 1
• Installation of additional components as per local regulations and conditions.
• This presentation is used as planning aid for the concerned installer.
OH_Duo_02.00.10
Subject to technical changes.
OH_Duo_SW
Project Manager PM


Geothermal probe system
Heat pump
Charging circuit heater
Buffer storage
Heating circuit 1
Heating circuit P
Legend
B1 Flow temperature sensor heating circuit 1
B21 Flow temperature sensor heat pump
B4 Buffer storage temperature sensor
B41 Buffer storage temp. sensor bottom (option)
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor
E15 Brine pressure controller
EG Expansion vessel
N11 Heat pump controller
PI Pressure gauge
Q2 Heating circuit pump 1
QX2 Heating circuit pump P
Q8 Brine pump
Q9 Condenser pump
RSV Non-return valve
SAM Dirt separator with magnet
SRV Balancing valve
ST Safety thermostat
SV Safety valve
Y1 Heating circuit mixer 1
• Installation of additional components as per local regulations and conditions.
• This presentation is used as planning aid for the concerned installer.
OH_Duo_02.00.10_E1
Subject to technical changes.
OH_Duo_SW
Project Manager PM



Legend

B1 Flow temperature sensor heating circuit 1
B21 Flow temperature sensor heat pump
B4 Buffer storage temperature sensor
B41 Buffer storage temp. sensor bottom (option)
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor
BX21 Flow temp. sensor heating circuit 2
EG Expansion vessel
E15 Brine pressure controller
N11 Heat pump controller
PI Pressure gauge
Q2 Heating circuit pump 1
Q8 Brine pump
Q9 Condenser pump
QX21 Heating circuit mixer 2
QX23 Heating circuit pump 2
SAM Dirt separator with magnet
SRV Balancing valve
ST Safety thermostat
SV Safety valve
PI Pressure gauge
Y1 Heating circuit mixer 1

				DATE	06 / 2021
				DESIGNER	FUP
				Proved	DG
RESPONSIBLE	CHANGE	DATE	DESIGNER	Standard	SIA 410

OH_Duo_02.00.10_E2

Subject to technical changes.

- Installation of additional components as per local regulations and conditions.
- This presentation is used as planning aid for the concerned installer.

PROJECTproject -
NAME OF DRAWING OH_Duo_SW

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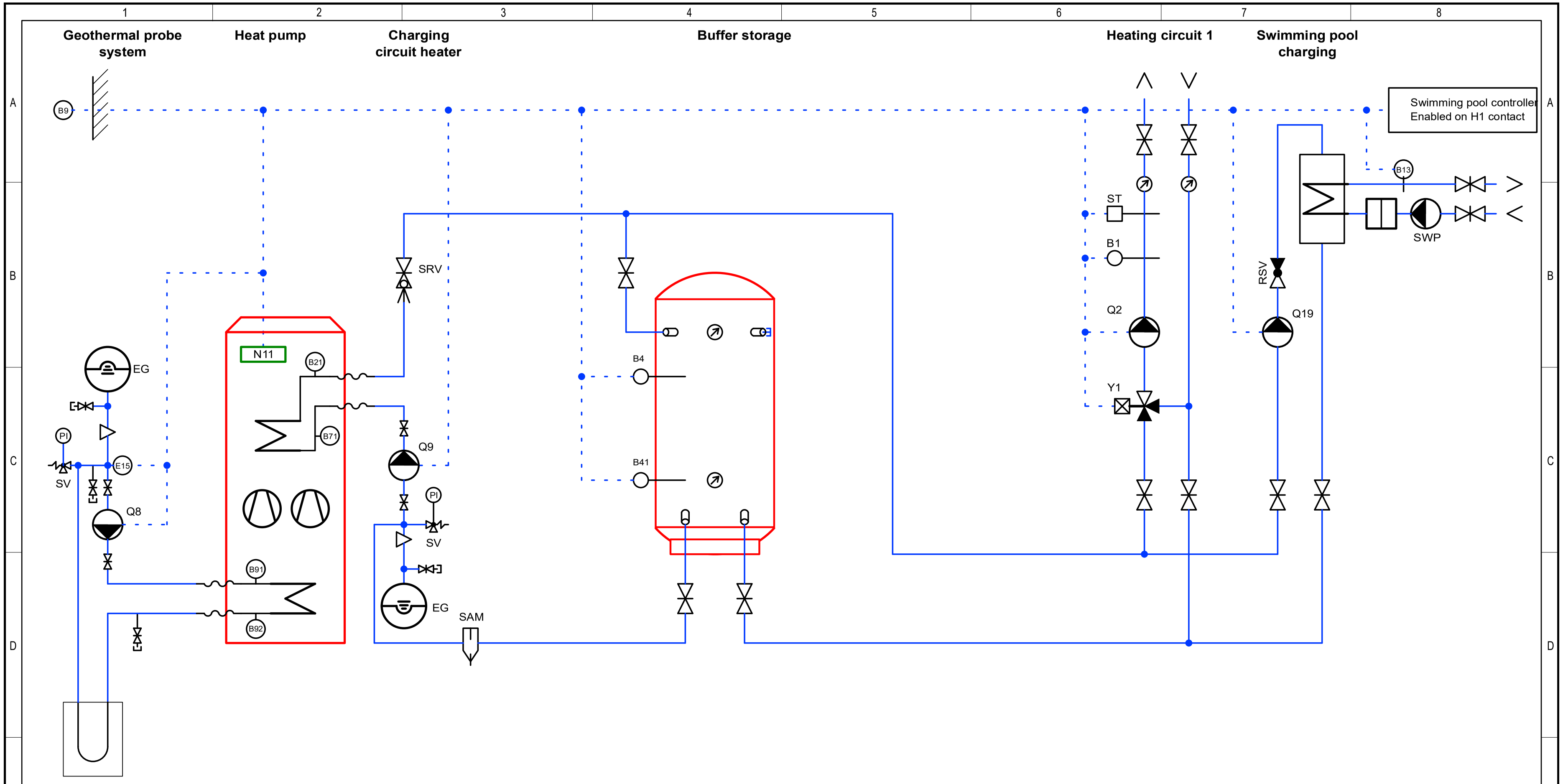
Project Manager PM		No. pgs.



Legend

B1 Flow temperature sensor heating circuit 1
B13 Swimming pool sensor (Limit Tmax.)
B21 Flow temperature sensor heat pump
B4 Buffer storage temperature sensor
B41 Buffer storage temp. sensor bottom (option)
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor
EG Expansion vessel

E15 Brine pressure controller
N11 Heat pump controller
PI Pressure gauge
Q2 Heating circuit pump 1
Q8 Brine pump
Q9 Condenser pump
Q19 Swimming pool circulation pump
RSV Non-return valve
SAM Dirt separator with magnet

SRV Balancing valve
ST Safety thermostat
SV Safety valve
SWP Swimming pool pump (controlled externally)
Y1 Heating circuit mixer 1

				DATE	06 / 2021
				DESIGNER	FUP
				Proved	DG
RESPONSIBLE	CHANGE	DATE	DESIGNER	Standard	SIA 410

OH_Duo_02.00.10_E4

Subject to technical changes.

- Installation of additional components as per local regulations and conditions.
- This presentation is used as planning aid for the concerned installer.

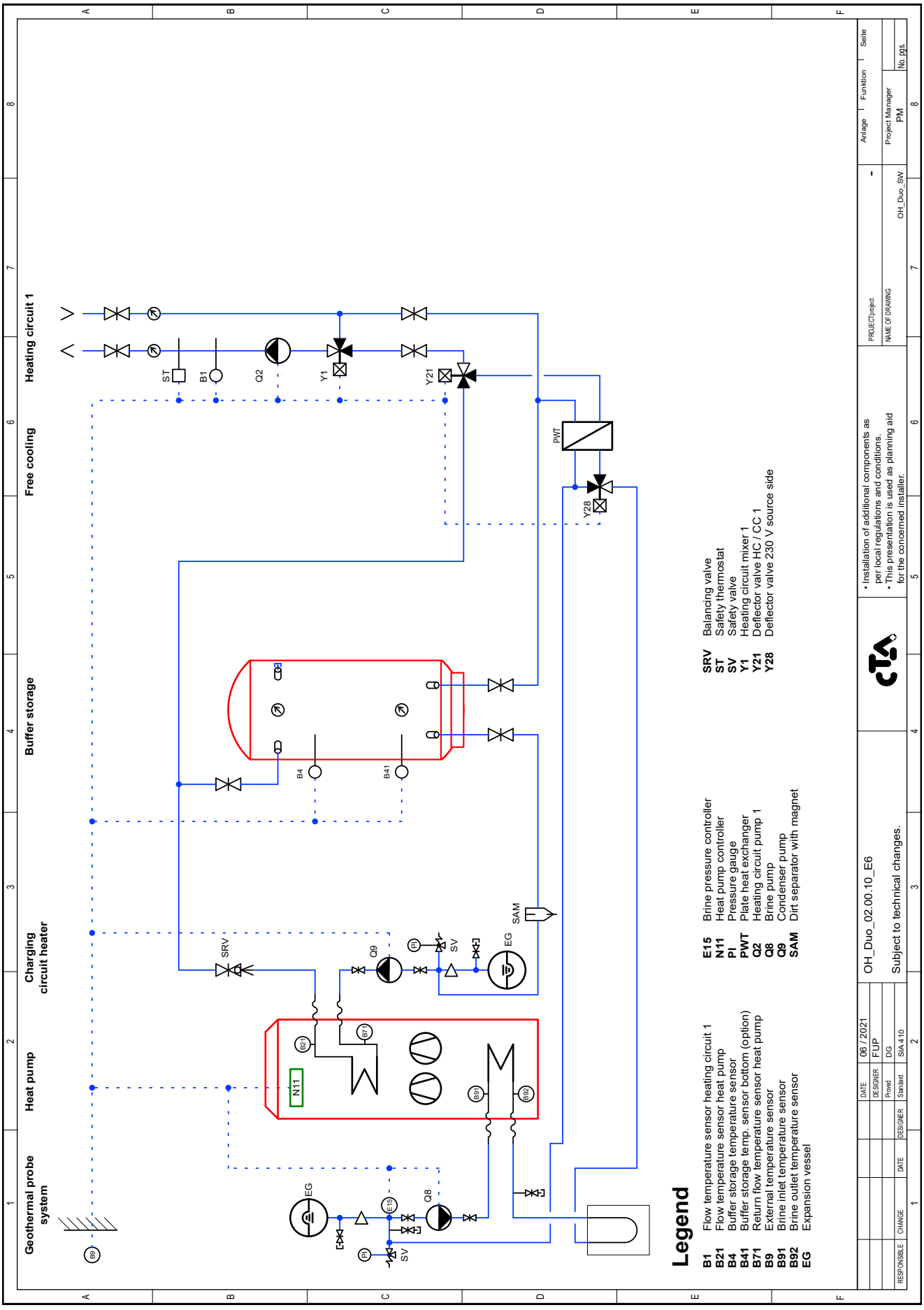
PROJECTproject -

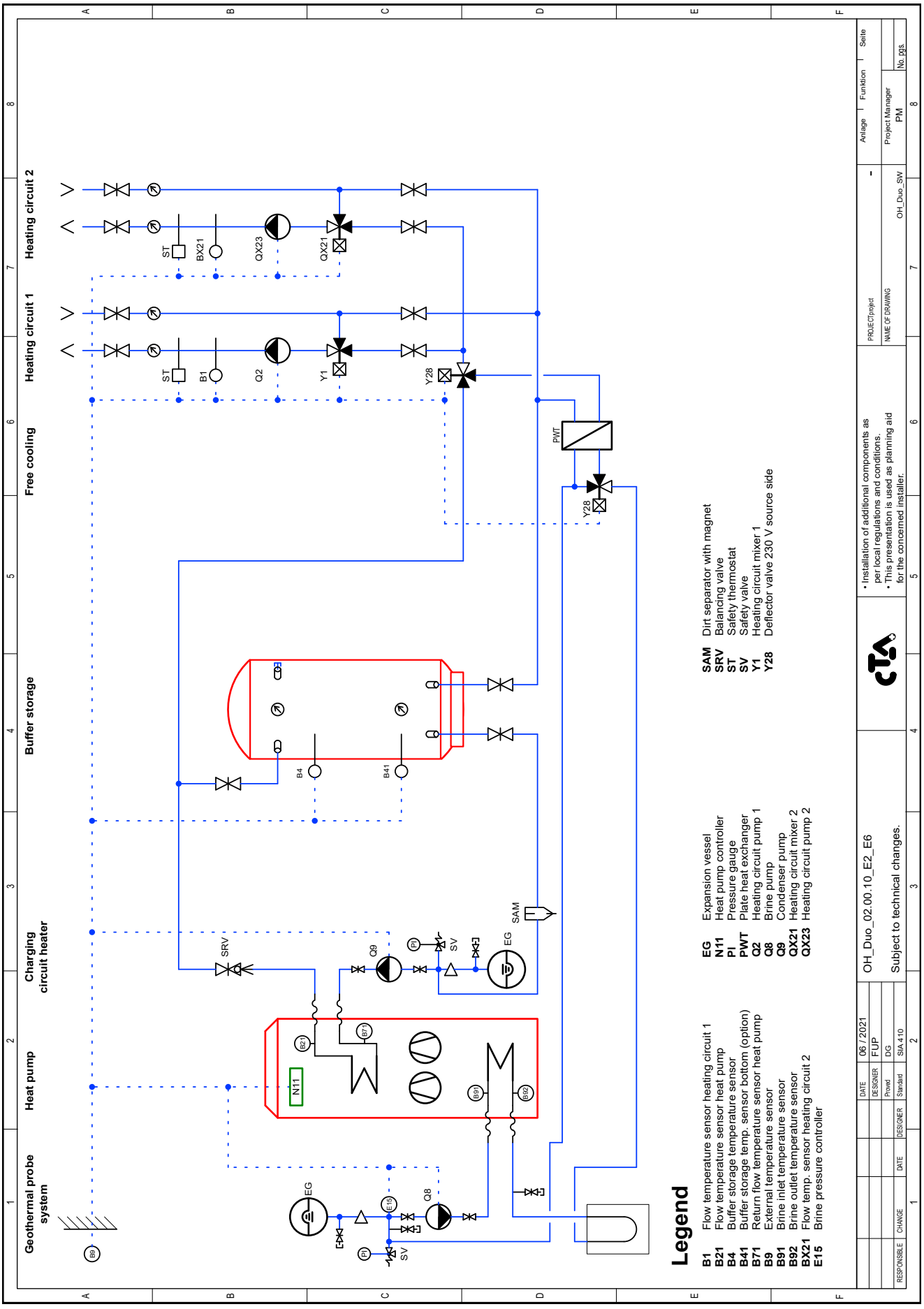
NAME OF DRAWING OH_Duo_SW

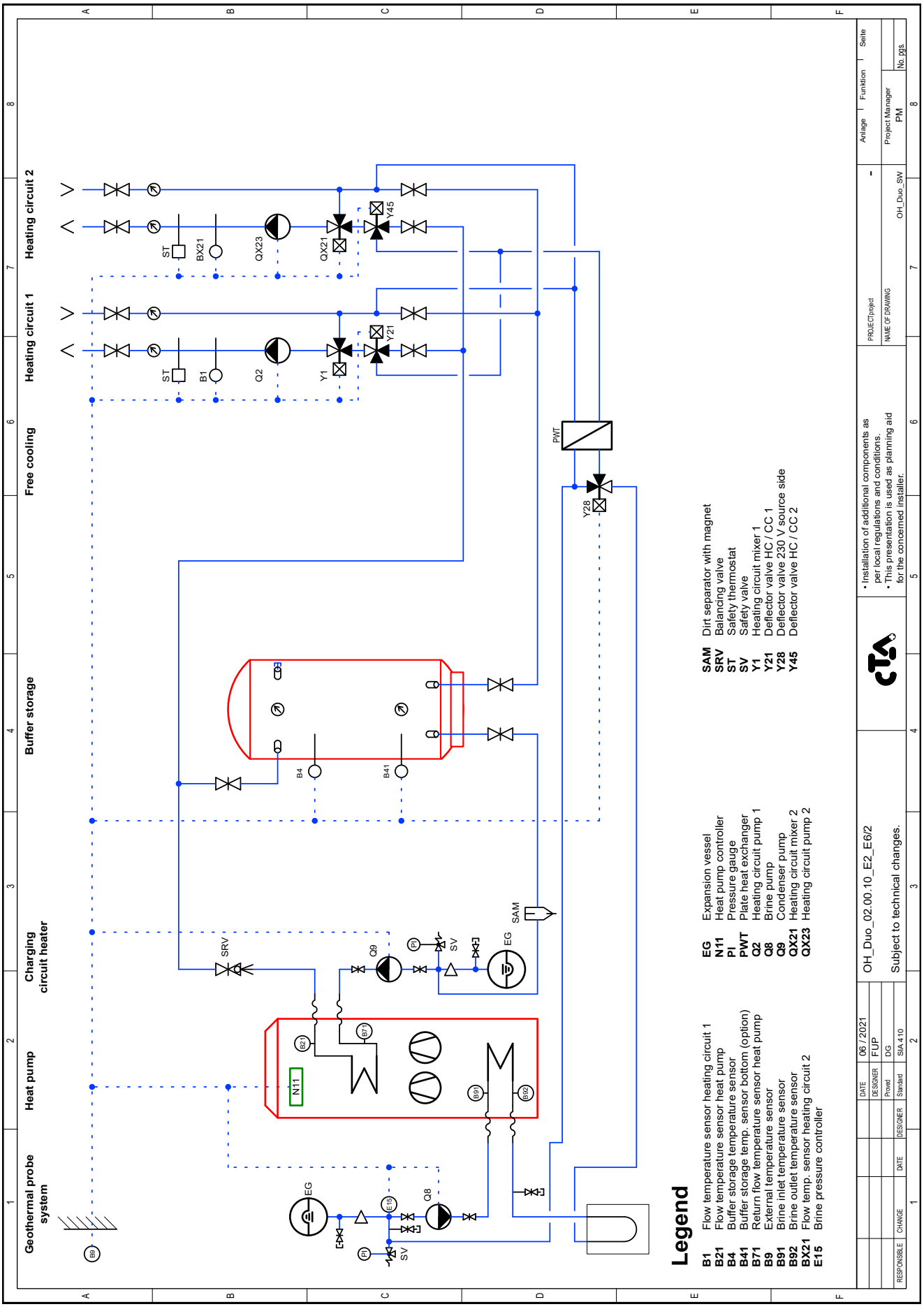
Anlage | Funktion | Seite

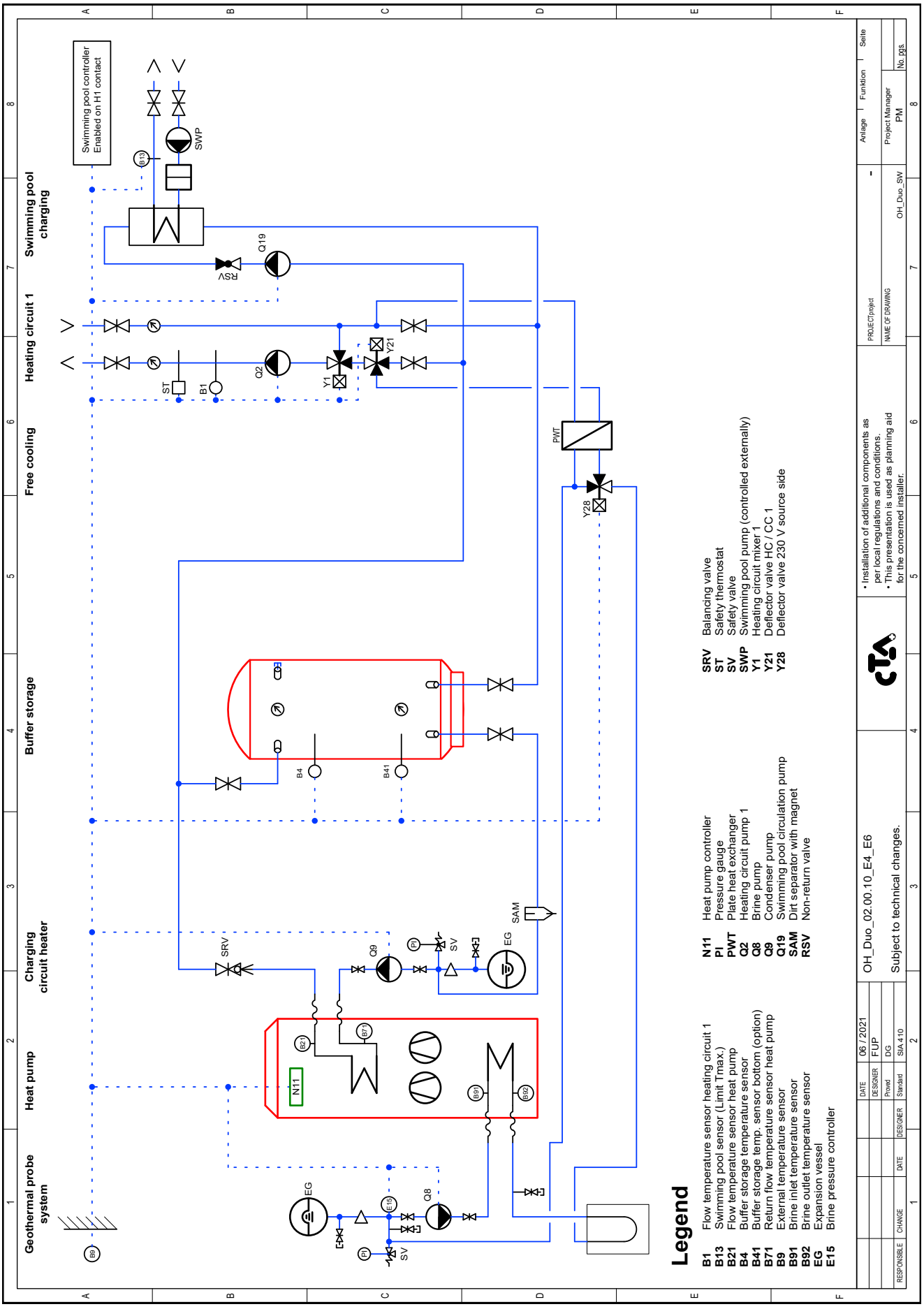
Project Manager PM

No. pgs.

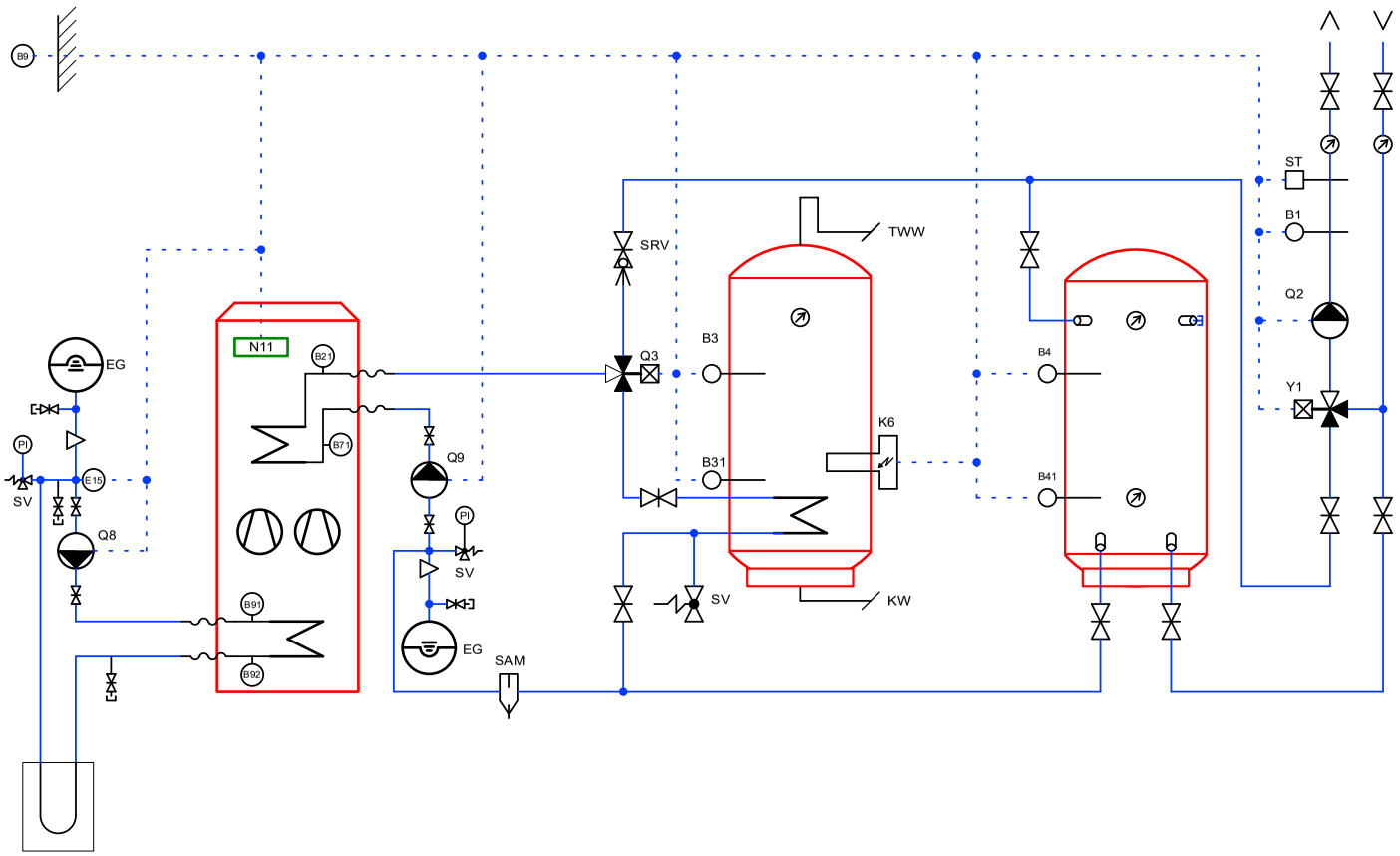

Geothermal probe system
Heat pump
Charging circuit heater
Buffer storage
Free cooling
Heating circuit 1
Legend
B1 Flow temperature sensor heating circuit 1
B21 Flow temperature sensor heat pump
B4 Buffer storage temperature sensor
B41 Buffer storage temp. sensor bottom (option)
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor
EG Expansion vessel
E15 Brine pressure controller
N11 Heat pump controller
PI Pressure gauge
PWT Plate heat exchanger
Q2 Heating circuit pump 1
Q8 Brine pump
Q9 Condenser pump
SAM Dirt separator with magnet
SRV Balancing valve
ST Safety thermostat
SV Safety valve
Y1 Heating circuit mixer 1
Y21 Deflector valve HC / CC 1
Y28 Deflector valve 230 V source side
• Installation of additional components as per local regulations and conditions.
• This presentation is used as planning aid for the concerned installer.
OH_Duo_02.00.10_E6
Subject to technical changes.
OH_Duo_SW
Project Manager PM


Geothermal probe system
Heat pump
Charging circuit heater
Buffer storage
Free cooling
Heating circuit 1
Heating circuit 2
Legend
B1 Flow temperature sensor heating circuit 1
B21 Flow temperature sensor heat pump
B4 Buffer storage temperature sensor
B41 Buffer storage temp. sensor bottom (option)
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor
BX21 Flow temp. sensor heating circuit 2
E15 Brine pressure controller
EG Expansion vessel
N11 Heat pump controller
PI Pressure gauge
PWT Plate heat exchanger
Q2 Heating circuit pump 1
Q8 Brine pump
Q9 Condenser pump
QX21 Heating circuit mixer 2
QX23 Heating circuit pump 2
SAM Dirt separator with magnet
SRV Balancing valve
ST Safety thermostat
SV Safety valve
Y1 Heating circuit mixer 1
Y28 Deflector valve 230 V source side
• Installation of additional components as per local regulations and conditions.
• This presentation is used as planning aid for the concerned installer.
OH_Duo_02.00.10_E2_E6
Subject to technical changes.
OH_Duo_SW
Project Manager PM


Geothermal probe system
Heat pump
Charging circuit heater
Buffer storage
Free cooling
Heating circuit 1
Heating circuit 2
Legend
B1 Flow temperature sensor heating circuit 1
B21 Flow temperature sensor heat pump
B4 Buffer storage temperature sensor
B41 Buffer storage temp. sensor bottom (option)
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor
BX21 Flow temp. sensor heating circuit 2
E15 Brine pressure controller
EG Expansion vessel
N11 Heat pump controller
PI Pressure gauge
PWT Plate heat exchanger
Q2 Heating circuit pump 1
Q8 Brine pump
Q9 Condenser pump
QX21 Heating circuit mixer 2
QX23 Heating circuit pump 2
SAM Dirt separator with magnet
SRV Balancing valve
ST Safety thermostat
SV Safety valve
Y1 Heating circuit mixer 1
Y21 Deflector valve HC / CC 1
Y28 Deflector valve 230 V source side
Y45 Deflector valve HC / CC 2
• Installation of additional components as per local regulations and conditions.
• This presentation is used as planning aid for the concerned installer.
OH_Duo_02.00.10_E2_E6/2
Subject to technical changes.
OH_Duo_SW
Project Manager PM


Geothermal probe system
Heat pump
Charging circuit heater
Buffer storage
Free cooling
Heating circuit 1
Swimming pool charging
Swimming pool controller Enabled on H1 contact
SWP
RSV
Q19
ST
B1
Q2
Y1
Y21
PWT
Y28
SRV
Q9
SV
EG
SAM
B4
B41
N11
B21
B71
B91
B92
Q8
E15
B9
Legend
B1 Flow temperature sensor heating circuit 1
B13 Swimming pool sensor (Limit Tmax.)
B21 Flow temperature sensor heat pump
B4 Buffer storage temperature sensor
B41 Buffer storage temp. sensor bottom (option)
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor
EG Expansion vessel
E15 Brine pressure controller
N11 Heat pump controller
PI Pressure gauge
PWT Plate heat exchanger
Q2 Heating circuit pump 1
Q8 Brine pump
Q9 Condenser pump
Q19 Swimming pool circulation pump
SAM Dirt separator with magnet
RSV Non-return valve
SRV Balancing valve
ST Safety thermostat
SV Safety valve
SWP Swimming pool pump (controlled externally)
Y1 Heating circuit mixer 1
Y21 Deflector valve HC / CC 1
Y28 Deflector valve 230 V source side
• Installation of additional components as per local regulations and conditions.
• This presentation is used as planning aid for the concerned installer.
OH_Duo_02.00.10_E4_E6
Subject to technical changes.
OH_Duo_SW
Project Manager PM

Geothermal probe system | Heat pump | Charging circuit heater | Charging circuit DHW | Domestic hot water storage tank | Buffer storage | Heating circuit 1



Legend

B1 Flow temperature sensor heating circuit 1
B21 Flow temperature sensor heat pump
B3 Domestic hot water temperature sensor
B31 DHW temperature sensor bottom (option)
B4 Buffer storage temperature sensor
B41 Buffer storage temp. sensor bottom (option)
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor

E15 Brine pressure controller
EG Expansion vessel
K6 Electrical heating element DHW
KW Cold water
N11 Heat pump controller
PI Pressure gauge
Q2 Heating circuit pump 1
Q3 Deflector valve DHW

Q8 Brine pump
Q9 Condenser pump
SAM Dirt separator with magnet
SRV Balancing valve
ST Safety thermostat
SV Safety valve

TWW Domestic hot water
Y1 Heating circuit mixer 1

				DATE	06 / 2021
				DESIGNER	FUP
				Proved	DG
RESPONSIBLE	CHANGE	DATE	DESIGNER	Standard	SIA 410

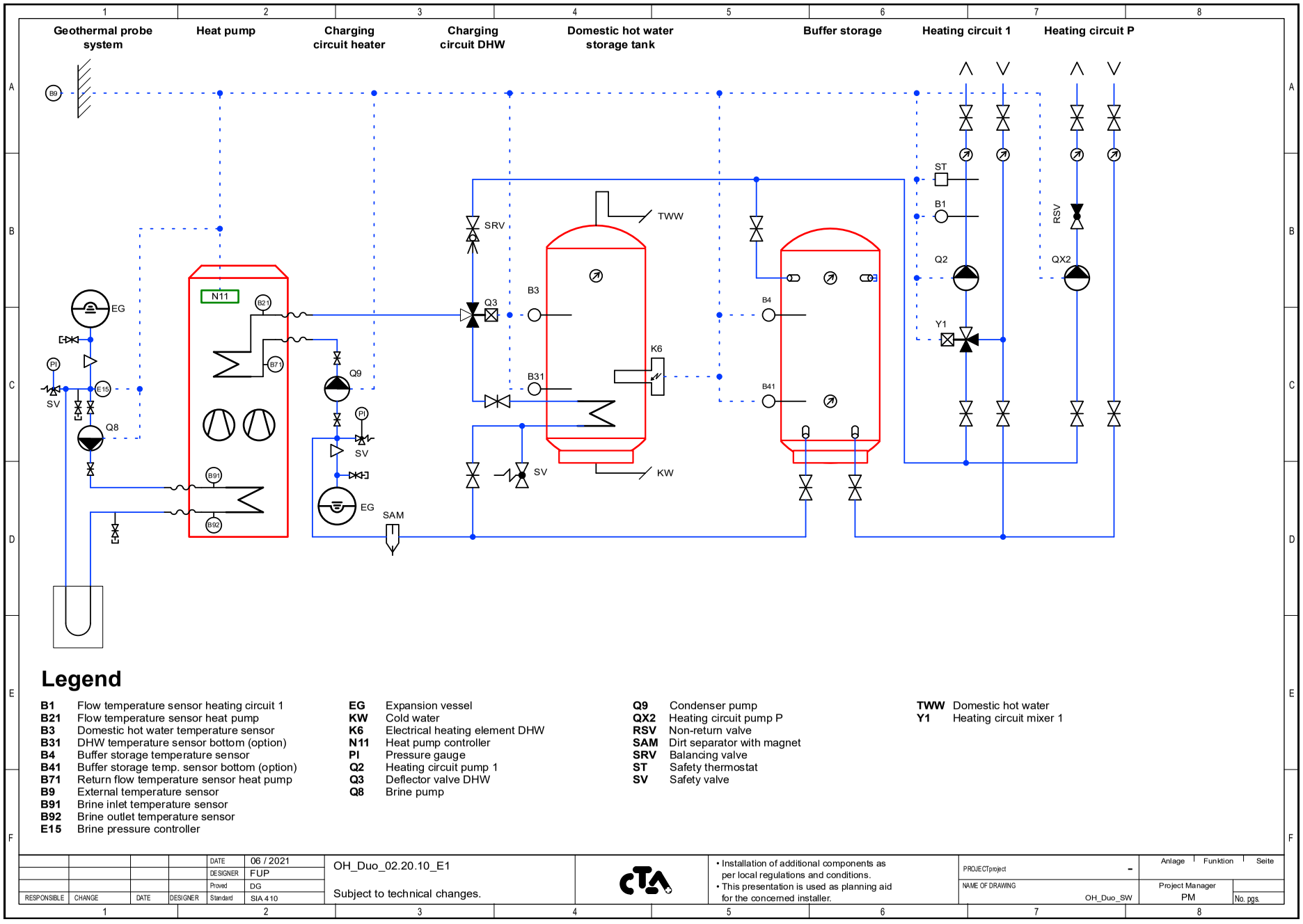
OH_Duo_02.20.10

Subject to technical changes.

- Installation of additional components as per local regulations and conditions.
- This presentation is used as planning aid for the concerned installer.

PROJECTproject -
NAME OF DRAWING OH_Duo_SW

Anlage | Funktion | Seite
Project Manager PM
No. pgs.



Legend

B1 Flow temperature sensor heating circuit 1
B21 Flow temperature sensor heat pump
B3 Domestic hot water temperature sensor
B31 DHW temperature sensor bottom (option)
B4 Buffer storage temperature sensor
B41 Buffer storage temp. sensor bottom (option)
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor
E15 Brine pressure controller

EG Expansion vessel
KW Cold water
K6 Electrical heating element DHW
N11 Heat pump controller
PI Pressure gauge
Q2 Heating circuit pump 1
Q3 Deflector valve DHW
Q8 Brine pump

Q9 Condenser pump
QX2 Heating circuit pump P
RSV Non-return valve
SAM Dirt separator with magnet
SRV Balancing valve
ST Safety thermostat
SV Safety valve

TWW Domestic hot water
Y1 Heating circuit mixer 1

				DATE	06 / 2021
				DESIGNER	FUP
				Proved	DG
RESPONSIBLE	CHANGE	DATE	DESIGNER	Standard	SIA 410

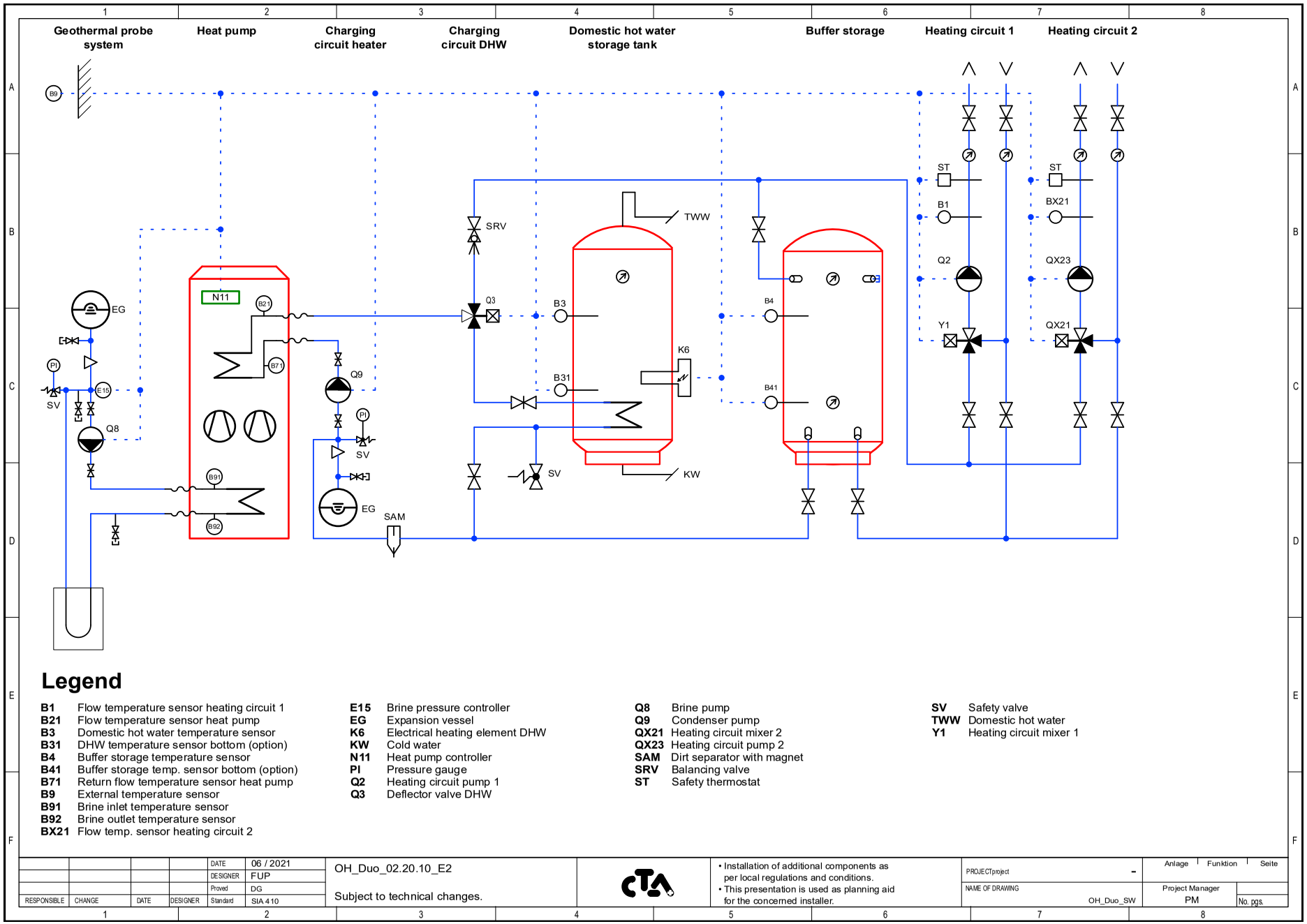
OH_Duo_02.20.10_E1

Subject to technical changes.

- Installation of additional components as per local regulations and conditions.
- This presentation is used as planning aid for the concerned installer.

PROJECTproject -
NAME OF DRAWING OH_Duo_SW

Anlage	Funktion	Seite
Project Manager PM		No. pgs.



Legend

B1 Flow temperature sensor heating circuit 1
B21 Flow temperature sensor heat pump
B3 Domestic hot water temperature sensor
B31 DHW temperature sensor bottom (option)
B4 Buffer storage temperature sensor
B41 Buffer storage temp. sensor bottom (option)
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor
BX21 Flow temp. sensor heating circuit 2

E15 Brine pressure controller
EG Expansion vessel
K6 Electrical heating element DHW
KW Cold water
N11 Heat pump controller
PI Pressure gauge
Q2 Heating circuit pump 1
Q3 Deflector valve DHW

Q8 Brine pump
Q9 Condenser pump
QX21 Heating circuit mixer 2
QX23 Heating circuit pump 2
SAM Dirt separator with magnet
SRV Balancing valve
ST Safety thermostat

SV Safety valve
TWW Domestic hot water
Y1 Heating circuit mixer 1

				DATE	06 / 2021
				DESIGNER	FUP
				Proved	DG
RESPONSIBLE	CHANGE	DATE	DESIGNER	Standard	SIA 410

OH_Duo_02.20.10_E2

Subject to technical changes.

- Installation of additional components as per local regulations and conditions.
- This presentation is used as planning aid for the concerned installer.

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NAME OF DRAWING	OH_Duo_SW	Project Manager	PM
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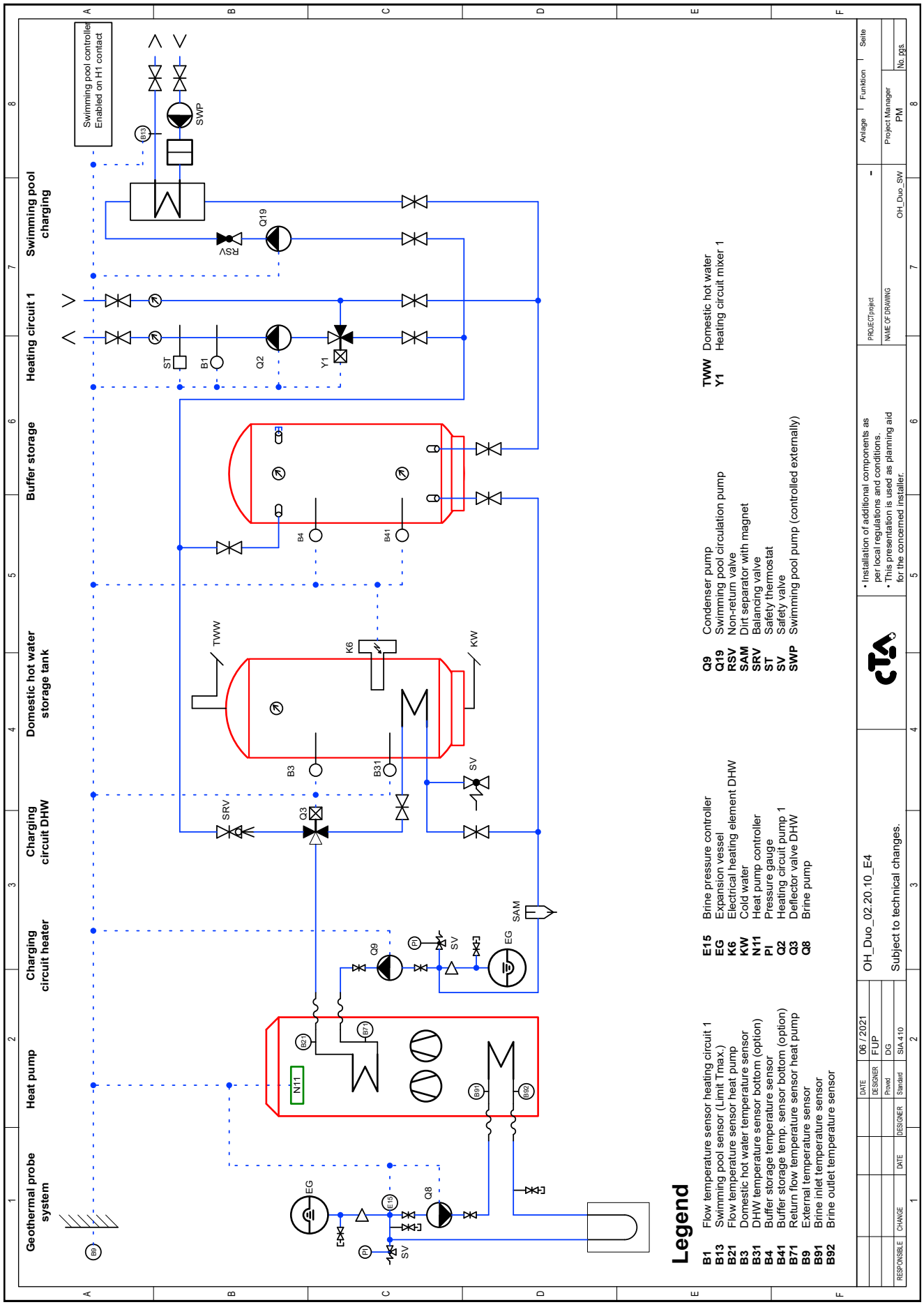
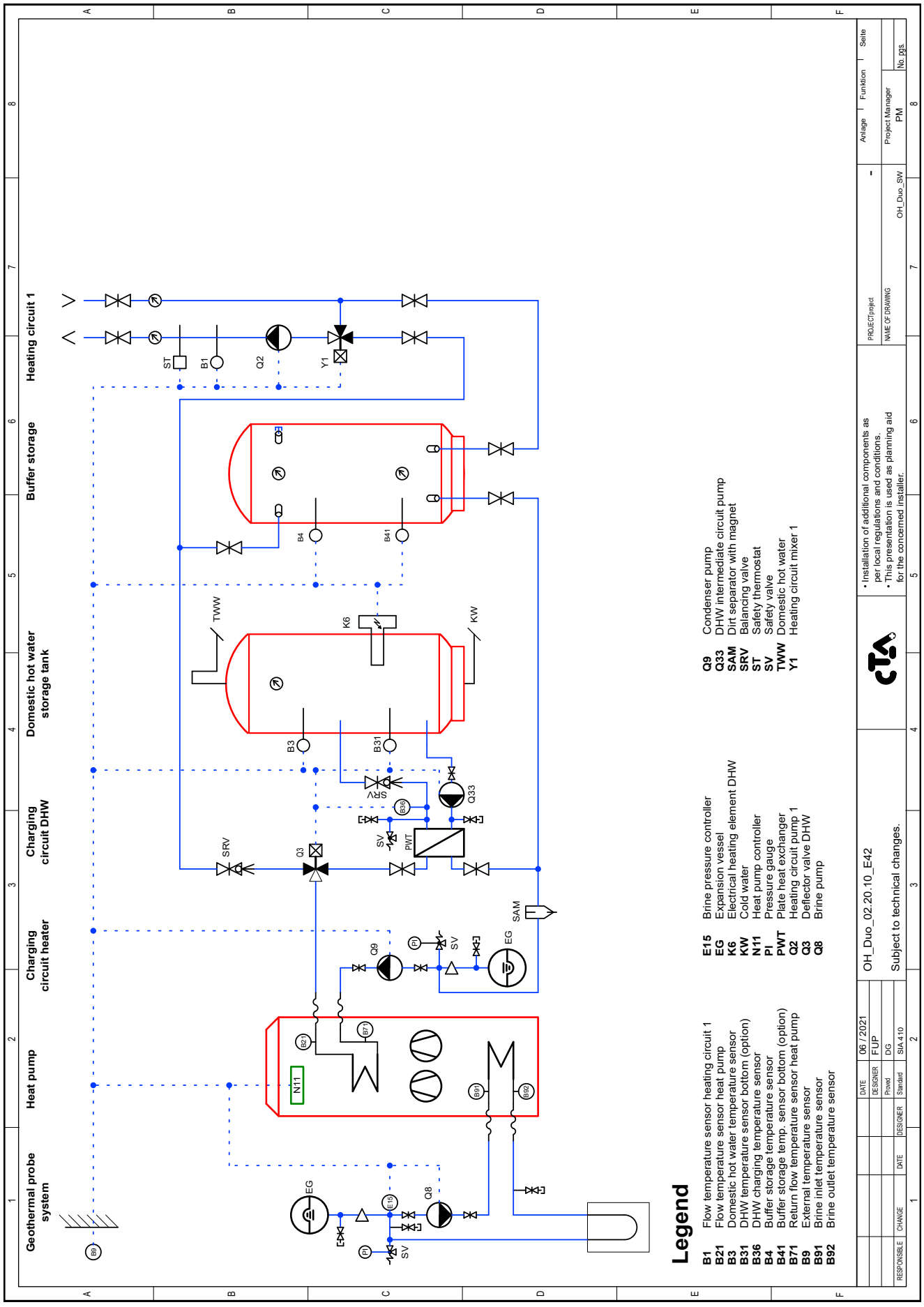
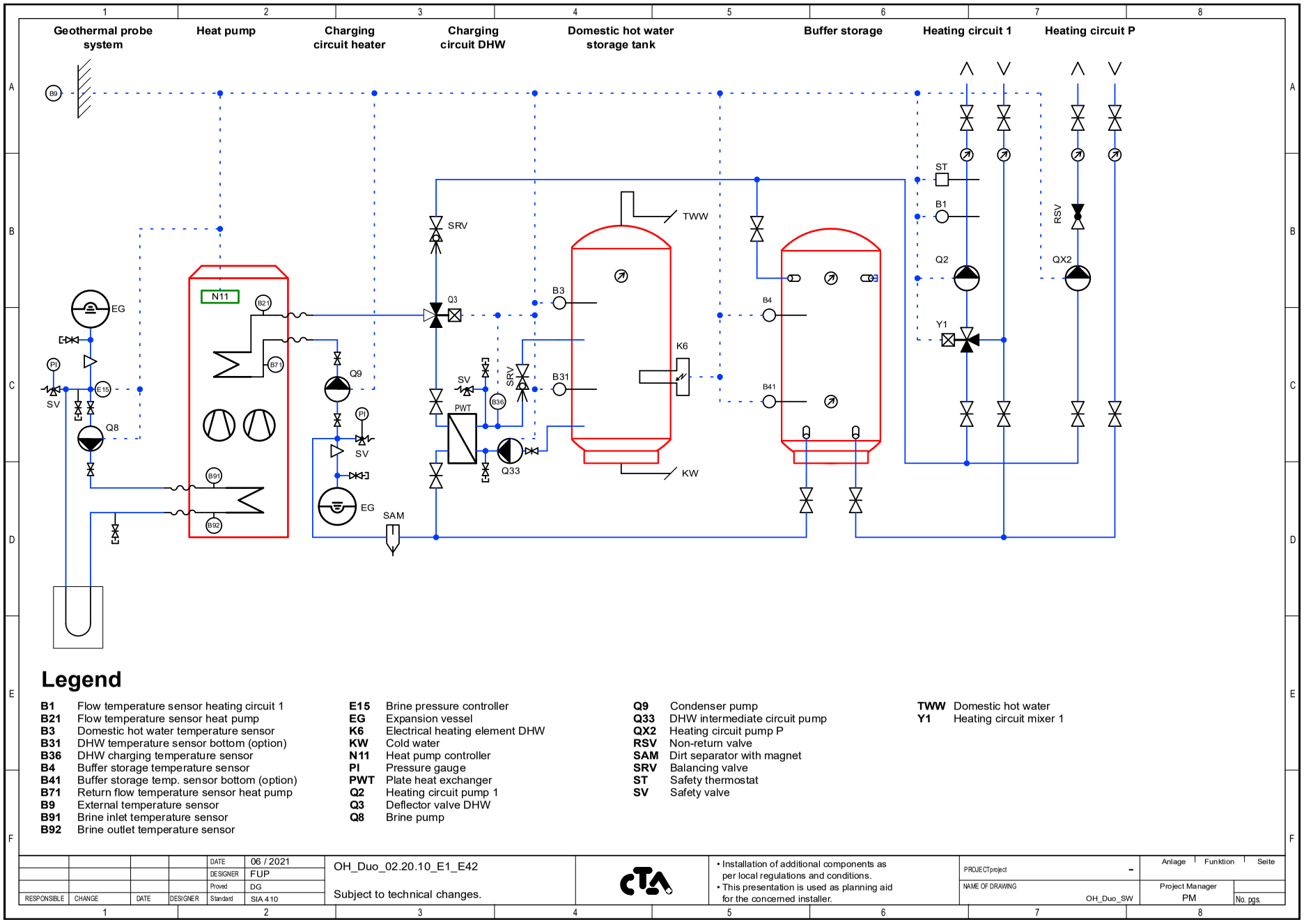

Geothermal probe system
Heat pump
Charging circuit heater
Charging circuit DHW
Domestic hot water storage tank
Buffer storage
Heating circuit 1
Swimming pool charging
Swimming pool controller Enabled on H1 contact
SWP
Q19
RSV
ST
B1
Q2
Y1
TWW
KW
K6
B3
B31
B4
B41
SRV
Q3
SV
SAM
EG
Q9
N11
B21
B71
B91
B92
E15
Q8
B9
Legend
B1 Flow temperature sensor heating circuit 1
B13 Swimming pool sensor (Limit Tmax.)
B21 Flow temperature sensor heat pump
B3 Domestic hot water temperature sensor
B31 DHW temperature sensor bottom (option)
B4 Buffer storage temperature sensor
B41 Buffer storage temp. sensor bottom (option)
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor
E15 Brine pressure controller
EG Expansion vessel
K6 Electrical heating element DHW
KW Cold water
N11 Heat pump controller
PI Pressure gauge
Q2 Heating circuit pump 1
Q3 Deflector valve DHW
Q8 Brine pump
Q9 Condenser pump
Q19 Swimming pool circulation pump
RSV Non-return valve
SAM Dirt separator with magnet
SRV Balancing valve
ST Safety thermostat
SV Safety valve
SWP Swimming pool pump (controlled externally)
TWW Domestic hot water
Y1 Heating circuit mixer 1
• Installation of additional components as per local regulations and conditions.
• This presentation is used as planning aid for the concerned installer.
OH_Duo_02.20.10_E4
Subject to technical changes.
OH_Duo_SW
Project Manager PM


Geothermal probe system
Heat pump
Charging circuit heater
Charging circuit DHW
Domestic hot water storage tank
Buffer storage
Heating circuit 1
Legend
B1 Flow temperature sensor heating circuit 1
B21 Flow temperature sensor heat pump
B3 Domestic hot water temperature sensor
B31 DHW temperature sensor bottom (option)
B36 DHW charging temperature sensor
B4 Buffer storage temperature sensor
B41 Buffer storage temp. sensor bottom (option)
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor
E15 Brine pressure controller
EG Expansion vessel
K6 Electrical heating element DHW
KW Cold water
N11 Heat pump controller
PI Pressure gauge
PWT Plate heat exchanger
Q2 Heating circuit pump 1
Q3 Deflector valve DHW
Q8 Brine pump
Q9 Condenser pump
Q33 DHW intermediate circuit pump
SAM Dirt separator with magnet
SRV Balancing valve
ST Safety thermostat
SV Safety valve
TWW Domestic hot water
Y1 Heating circuit mixer 1
• Installation of additional components as per local regulations and conditions.
• This presentation is used as planning aid for the concerned installer.
OH_Duo_02.20.10_E42
Subject to technical changes.
OH_Duo_SW
Project Manager PM



Legend

B1 Flow temperature sensor heating circuit 1
B21 Flow temperature sensor heat pump
B3 Domestic hot water temperature sensor
B31 DHW temperature sensor bottom (option)
B36 DHW charging temperature sensor
B4 Buffer storage temperature sensor
B41 Buffer storage temp. sensor bottom (option)
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor

E15 Brine pressure controller
EG Expansion vessel
K6 Electrical heating element DHW
KW Cold water
N11 Heat pump controller
PI Pressure gauge
PWT Plate heat exchanger
Q2 Heating circuit pump 1
Q3 Deflector valve DHW
Q8 Brine pump

Q9 Condenser pump
Q33 DHW intermediate circuit pump
QX2 Heating circuit pump P
RSV Non-return valve
SAM Dirt separator with magnet
SRV Balancing valve
ST Safety thermostat
SV Safety valve

TWW Domestic hot water
Y1 Heating circuit mixer 1

				DATE	06 / 2021
				DESIGNER	FUP
				Proved	DG
RESPONSIBLE	CHANGE	DATE	DESIGNER	Standard	SIA 410

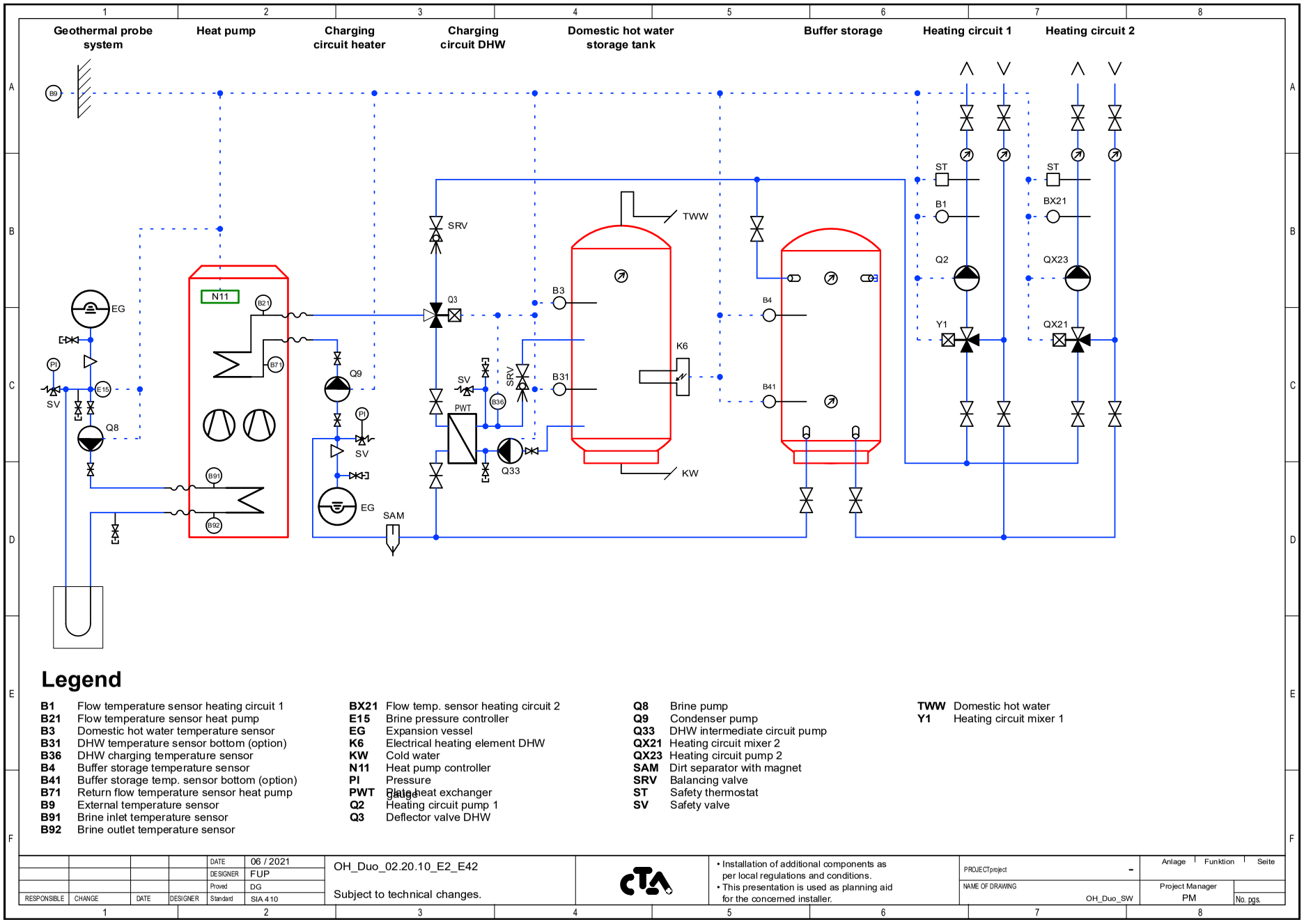
OH_Duo_02.20.10_E1_E42

Subject to technical changes.

- Installation of additional components as per local regulations and conditions.
- This presentation is used as planning aid for the concerned installer.

PROJECTproject -
NAME OF DRAWING OH_Duo_SW

Anlage	Funktion	Seite
Project Manager PM		No. pgs.



Legend

B1 Flow temperature sensor heating circuit 1
B21 Flow temperature sensor heat pump
B3 Domestic hot water temperature sensor
B31 DHW temperature sensor bottom (option)
B36 DHW charging temperature sensor
B4 Buffer storage temperature sensor
B41 Buffer storage temp. sensor bottom (option)
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor

BX21 Flow temp. sensor heating circuit 2
E15 Brine pressure controller
EG Expansion vessel
K6 Electrical heating element DHW
KW Cold water
N11 Heat pump controller
PI Pressure gauge
PWT Plate heat exchanger
Q2 Heating circuit pump 1
Q3 Deflector valve DHW

Q8 Brine pump
Q9 Condenser pump
Q33 DHW intermediate circuit pump
QX21 Heating circuit mixer 2
QX23 Heating circuit pump 2
SAM Dirt separator with magnet
SRV Balancing valve
ST Safety thermostat
SV Safety valve

TWW Domestic hot water
Y1 Heating circuit mixer 1

				DATE	06 / 2021
				DESIGNER	FUP
				Proved	DG
RESPONSIBLE	CHANGE	DATE	DESIGNER	Standard	SIA 410

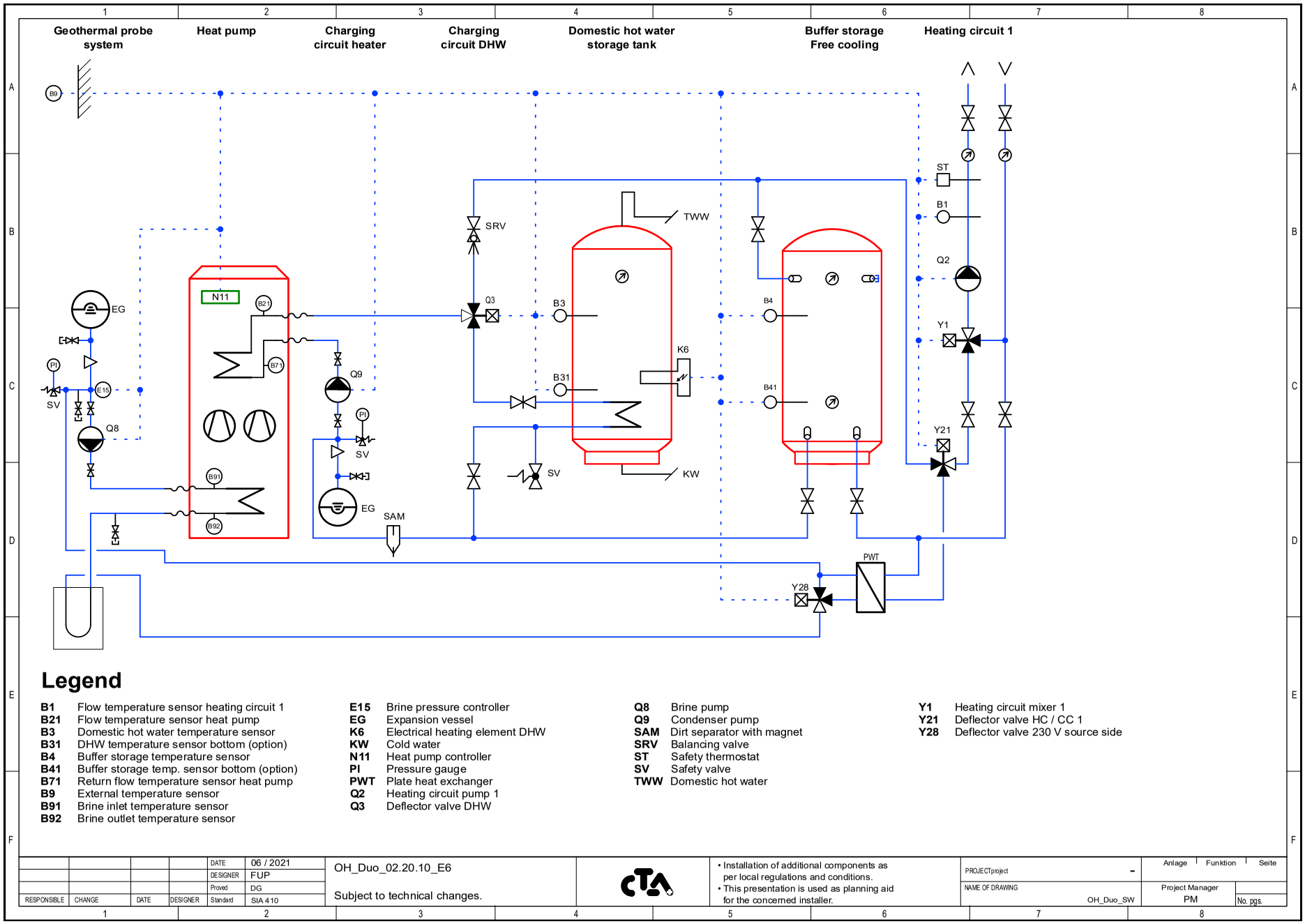
OH_Duo_02.20.10_E2_E42

Subject to technical changes.

- Installation of additional components as per local regulations and conditions.
- This presentation is used as planning aid for the concerned installer.

PROJECTproject -
NAME OF DRAWING OH_Duo_SW

Anlage | Funktion | Seite
Project Manager PM
No. pgs.



Legend

B1 Flow temperature sensor heating circuit 1
B21 Flow temperature sensor heat pump
B3 Domestic hot water temperature sensor
B31 DHW temperature sensor bottom (option)
B4 Buffer storage temperature sensor
B41 Buffer storage temp. sensor bottom (option)
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor

E15 Brine pressure controller
EG Expansion vessel
K6 Electrical heating element DHW
KW Cold water
N11 Heat pump controller
PI Pressure gauge
PWT Plate heat exchanger
Q2 Heating circuit pump 1
Q3 Deflector valve DHW

Q8 Brine pump
Q9 Condenser pump
SAM Dirt separator with magnet
SRV Balancing valve
ST Safety thermostat
SV Safety valve
TWW Domestic hot water

Y1 Heating circuit mixer 1
Y21 Deflector valve HC / CC 1
Y28 Deflector valve 230 V source side

				DATE	06 / 2021
				DESIGNER	FUP
				Proved	DG
RESPONSIBLE	CHANGE	DATE	DESIGNER	Standard	SIA 410

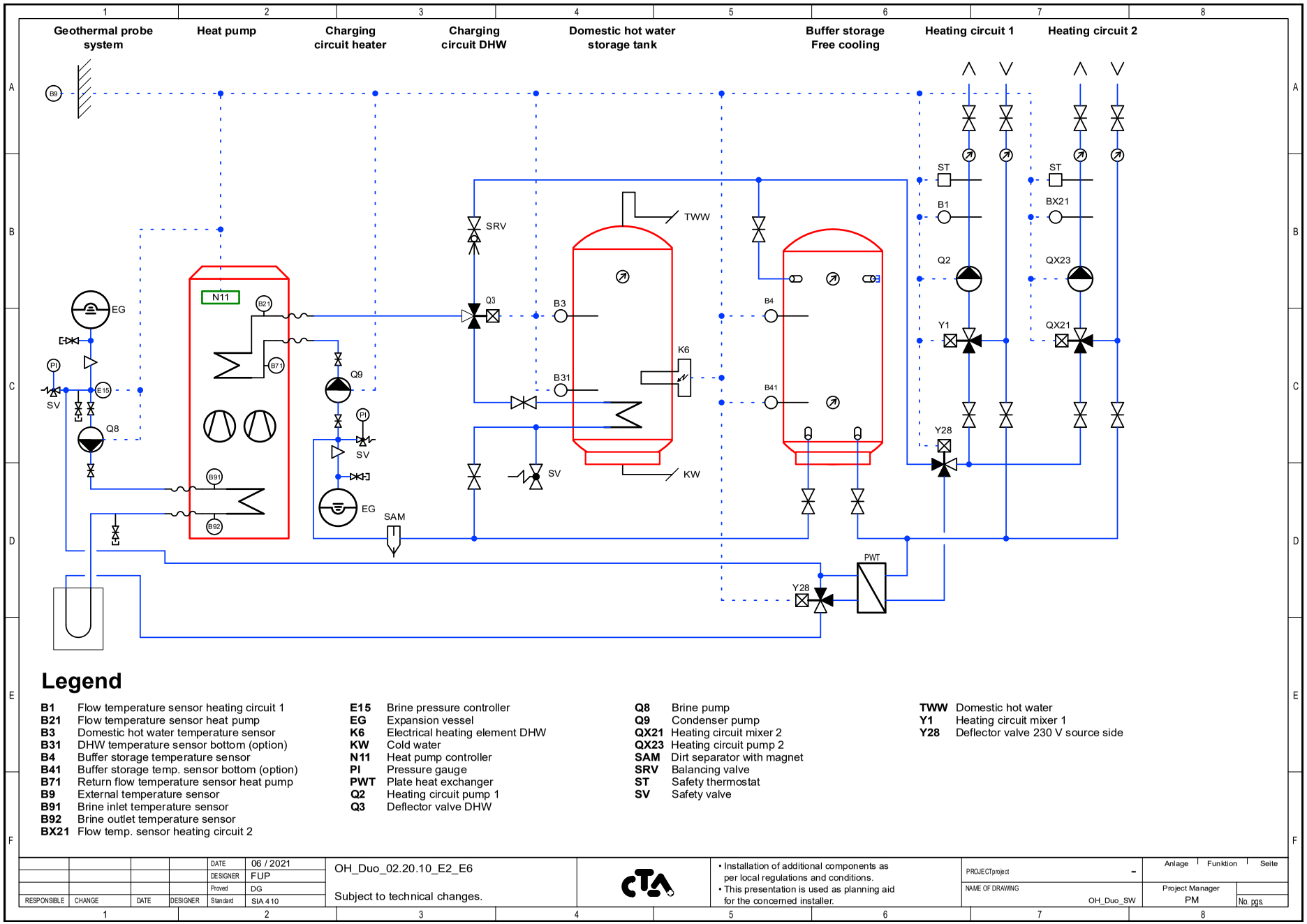
OH_Duo_02.20.10_E6

Subject to technical changes.

- Installation of additional components as per local regulations and conditions.
- This presentation is used as planning aid for the concerned installer.

PROJECTproject -
NAME OF DRAWING OH_Duo_SW

Anlage	Funktion	Seite
Project Manager PM		No. pgs.



Legend

B1 Flow temperature sensor heating circuit 1
B21 Flow temperature sensor heat pump
B3 Domestic hot water temperature sensor
B31 DHW temperature sensor bottom (option)
B4 Buffer storage temperature sensor
B41 Buffer storage temp. sensor bottom (option)
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor
BX21 Flow temp. sensor heating circuit 2

E15 Brine pressure controller
EG Expansion vessel
K6 Electrical heating element DHW
KW Cold water
N11 Heat pump controller
PI Pressure gauge
PWT Plate heat exchanger
Q2 Heating circuit pump 1
Q3 Deflector valve DHW

Q8 Brine pump
Q9 Condenser pump
QX21 Heating circuit mixer 2
QX23 Heating circuit pump 2
SAM Dirt separator with magnet
SRV Balancing valve
ST Safety thermostat
SV Safety valve

TWW Domestic hot water
Y1 Heating circuit mixer 1
Y28 Deflector valve 230 V source side

				DATE	06 / 2021
				DESIGNER	FUP
				Proved	DG
RESPONSIBLE	CHANGE	DATE	DESIGNER	Standard	SIA 410

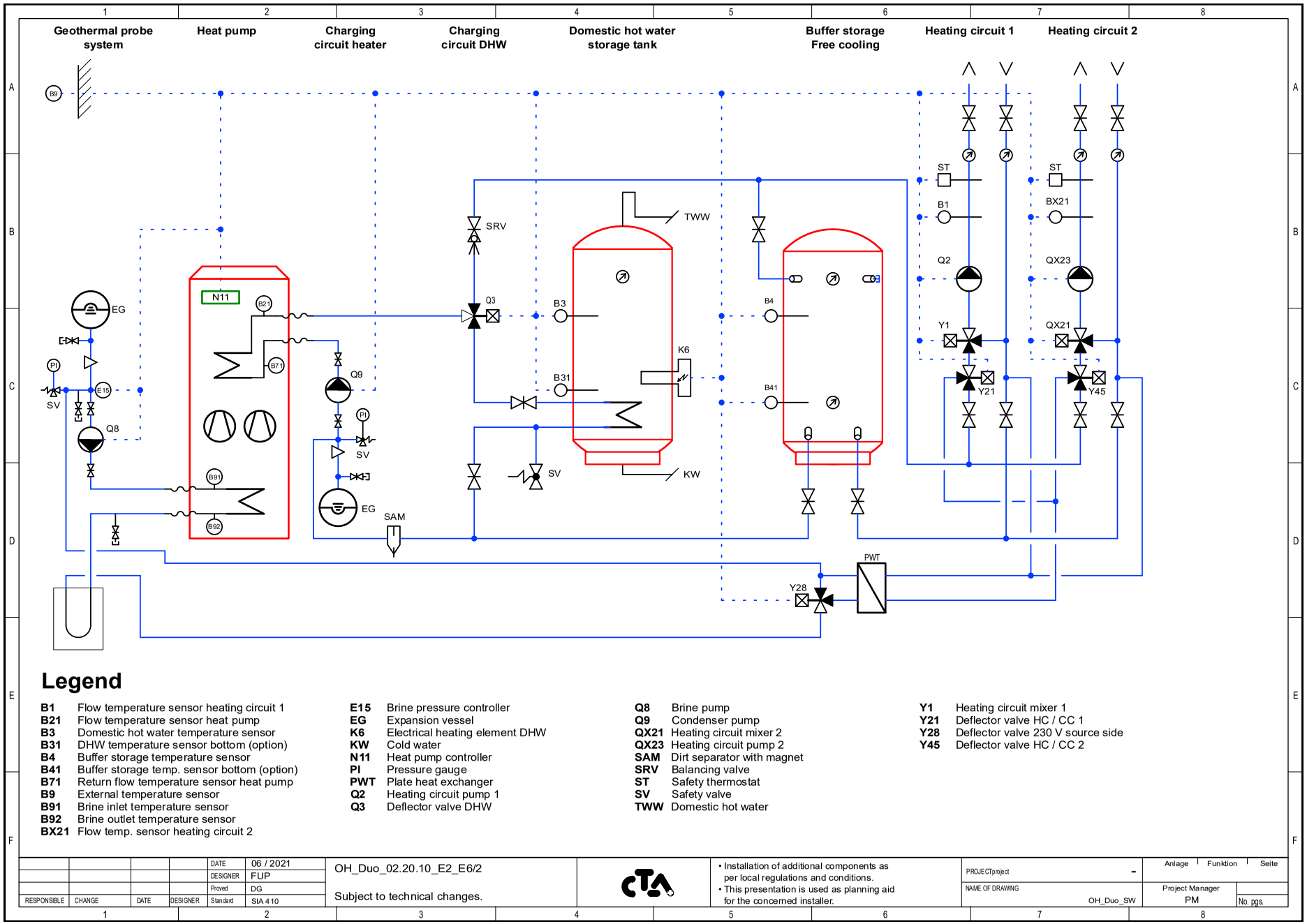
OH_Duo_02.20.10_E2_E6

Subject to technical changes.

- Installation of additional components as per local regulations and conditions.
- This presentation is used as planning aid for the concerned installer.

PROJECTproject -
NAME OF DRAWING OH_Duo_SW

Anlage	Funktion	Seite
Project Manager PM		No. pgs.



Legend

B1 Flow temperature sensor heating circuit 1
B21 Flow temperature sensor heat pump
B3 Domestic hot water temperature sensor
B31 DHW temperature sensor bottom (option)
B4 Buffer storage temperature sensor
B41 Buffer storage temp. sensor bottom (option)
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor
BX21 Flow temp. sensor heating circuit 2

E15 Brine pressure controller
EG Expansion vessel
K6 Electrical heating element DHW
KW Cold water
N11 Heat pump controller
PI Pressure gauge
PWT Plate heat exchanger
Q2 Heating circuit pump 1
Q3 Deflector valve DHW

Q8 Brine pump
Q9 Condenser pump
QX21 Heating circuit mixer 2
QX23 Heating circuit pump 2
SAM Dirt separator with magnet
SRV Balancing valve
ST Safety thermostat
SV Safety valve
TWW Domestic hot water

Y1 Heating circuit mixer 1
Y21 Deflector valve HC / CC 1
Y28 Deflector valve 230 V source side
Y45 Deflector valve HC / CC 2

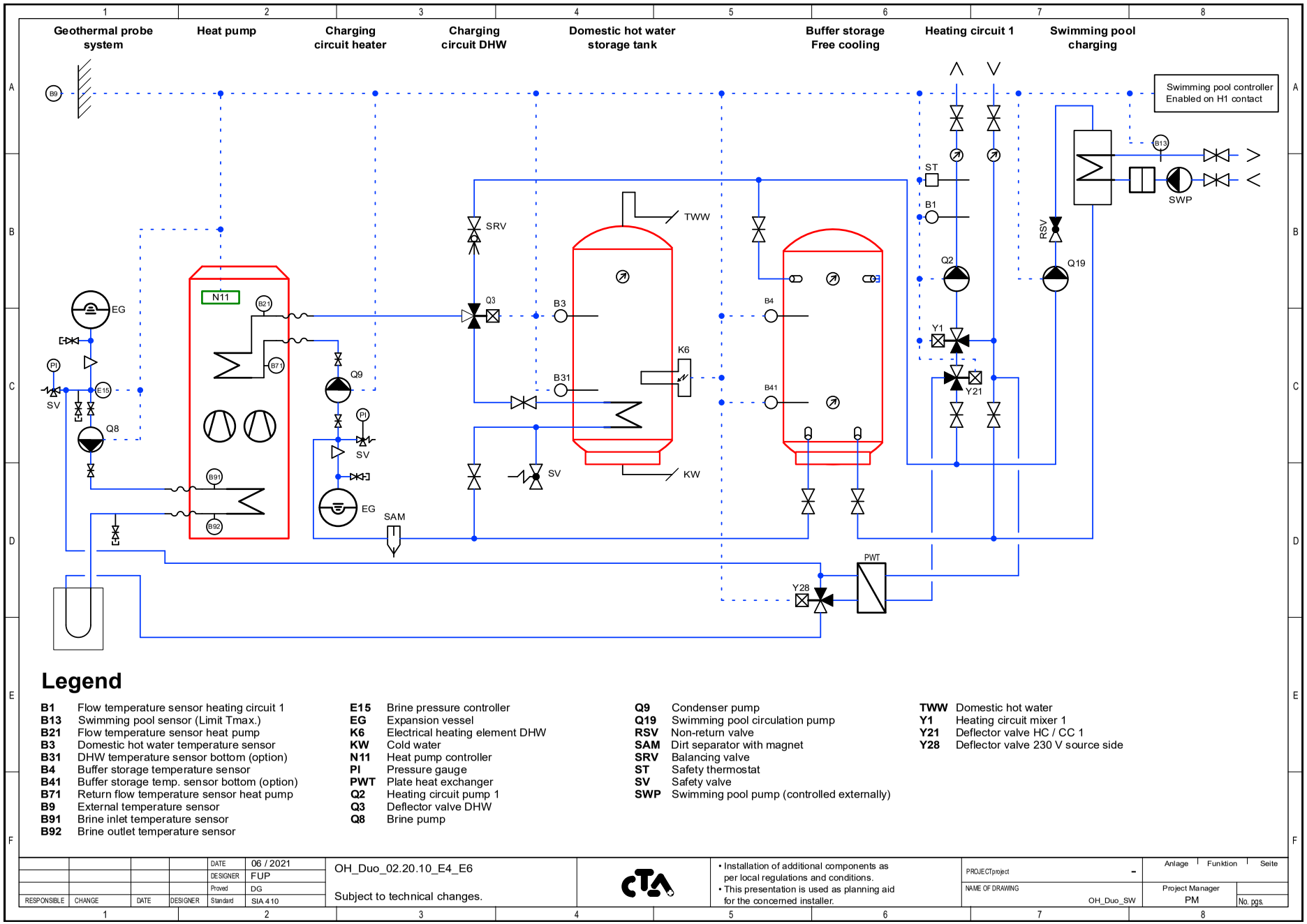
				DATE	06 / 2021
				DESIGNER	FUP
				Proved	DG
RESPONSIBLE	CHANGE	DATE	DESIGNER	Standard	SIA 410

OH_Duo_02.20.10_E2_E6/2

Subject to technical changes.

- Installation of additional components as per local regulations and conditions.
- This presentation is used as planning aid for the concerned installer.

PROJECTproject	-	Anlage	Funktion / Seite
NAME OF DRAWING	OH_Duo_SW	Project Manager	PM
		No. pgs.	



Legend

B1 Flow temperature sensor heating circuit 1
B13 Swimming pool sensor (Limit Tmax.)
B21 Flow temperature sensor heat pump
B3 Domestic hot water temperature sensor
B31 DHW temperature sensor bottom (option)
B4 Buffer storage temperature sensor
B41 Buffer storage temp. sensor bottom (option)
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor

E15 Brine pressure controller
EG Expansion vessel
K6 Electrical heating element DHW
KW Cold water
N11 Heat pump controller
PI Pressure gauge
PWT Plate heat exchanger
Q2 Heating circuit pump 1
Q3 Deflector valve DHW
Q8 Brine pump

Q9 Condenser pump
Q19 Swimming pool circulation pump
RSV Non-return valve
SAM Dirt separator with magnet
SRV Balancing valve
ST Safety thermostat
SV Safety valve
SWP Swimming pool pump (controlled externally)

TWW Domestic hot water
Y1 Heating circuit mixer 1
Y21 Deflector valve HC / CC 1
Y28 Deflector valve 230 V source side

				DATE	06 / 2021
				DESIGNER	FUP
				Proved	DG
RESPONSIBLE	CHANGE	DATE	DESIGNER	Standard	SIA 410

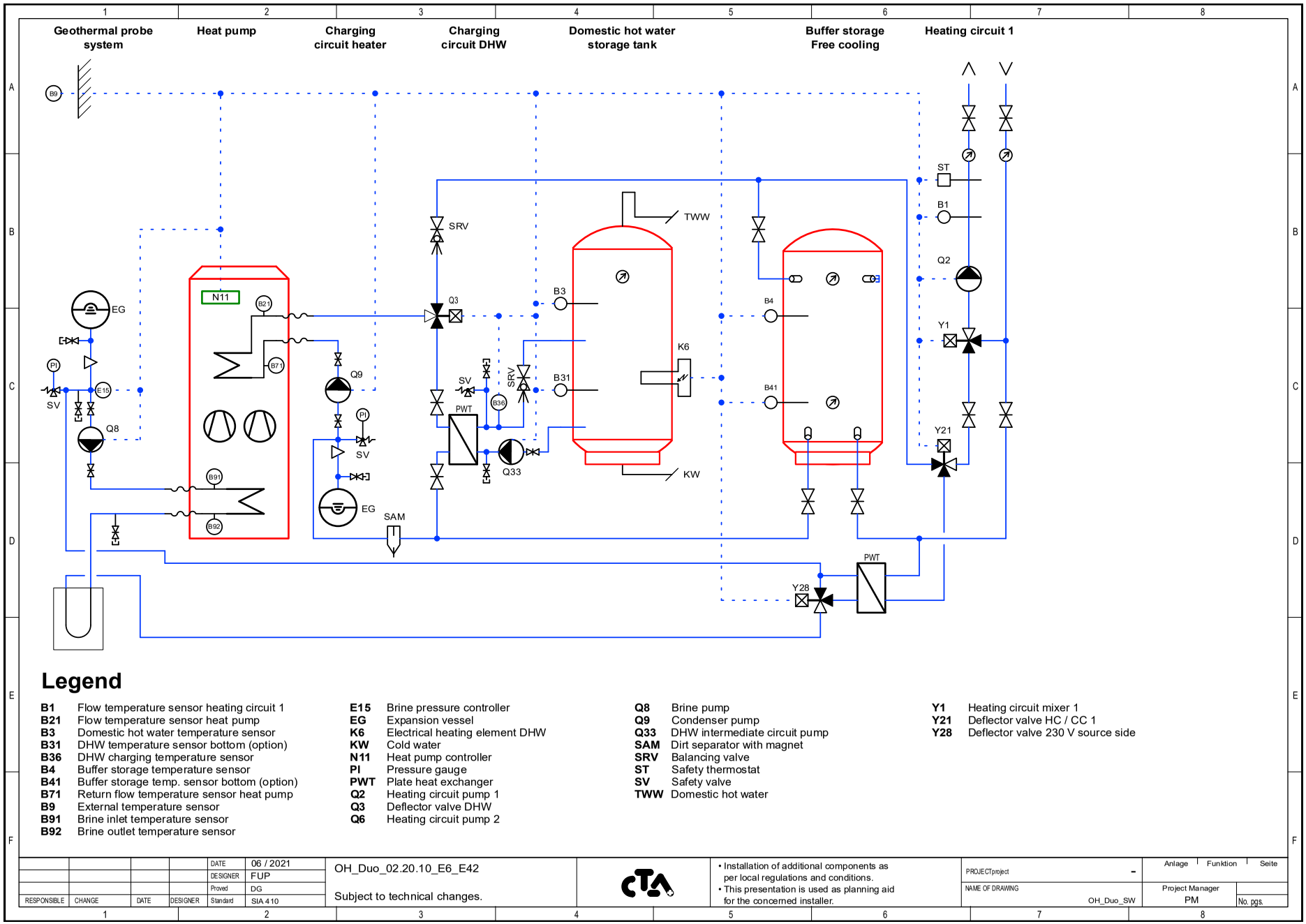
OH_Duo_02.20.10_E4_E6

Subject to technical changes.

- Installation of additional components as per local regulations and conditions.
- This presentation is used as planning aid for the concerned installer.

PROJECTproject -
NAME OF DRAWING OH_Duo_SW

Anlage | Funktion | Seite
Project Manager PM
No. pgs.



Legend

B1 Flow temperature sensor heating circuit 1
B21 Flow temperature sensor heat pump
B3 Domestic hot water temperature sensor
B31 DHW temperature sensor bottom (option)
B36 DHW charging temperature sensor
B4 Buffer storage temperature sensor
B41 Buffer storage temp. sensor bottom (option)
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor

E15 Brine pressure controller
EG Expansion vessel
K6 Electrical heating element DHW
KW Cold water
N11 Heat pump controller
PI Pressure gauge
PWT Plate heat exchanger
Q2 Heating circuit pump 1
Q3 Deflector valve DHW
Q6 Heating circuit pump 2

Q8 Brine pump
Q9 Condenser pump
Q33 DHW intermediate circuit pump
SAM Dirt separator with magnet
SRV Balancing valve
ST Safety thermostat
SV Safety valve
TWW Domestic hot water

Y1 Heating circuit mixer 1
Y21 Deflector valve HC / CC 1
Y28 Deflector valve 230 V source side

				DATE	06 / 2021
				DESIGNER	FUP
				Proved	DG
RESPONSIBLE	CHANGE	DATE	DESIGNER	Standard	SIA 410

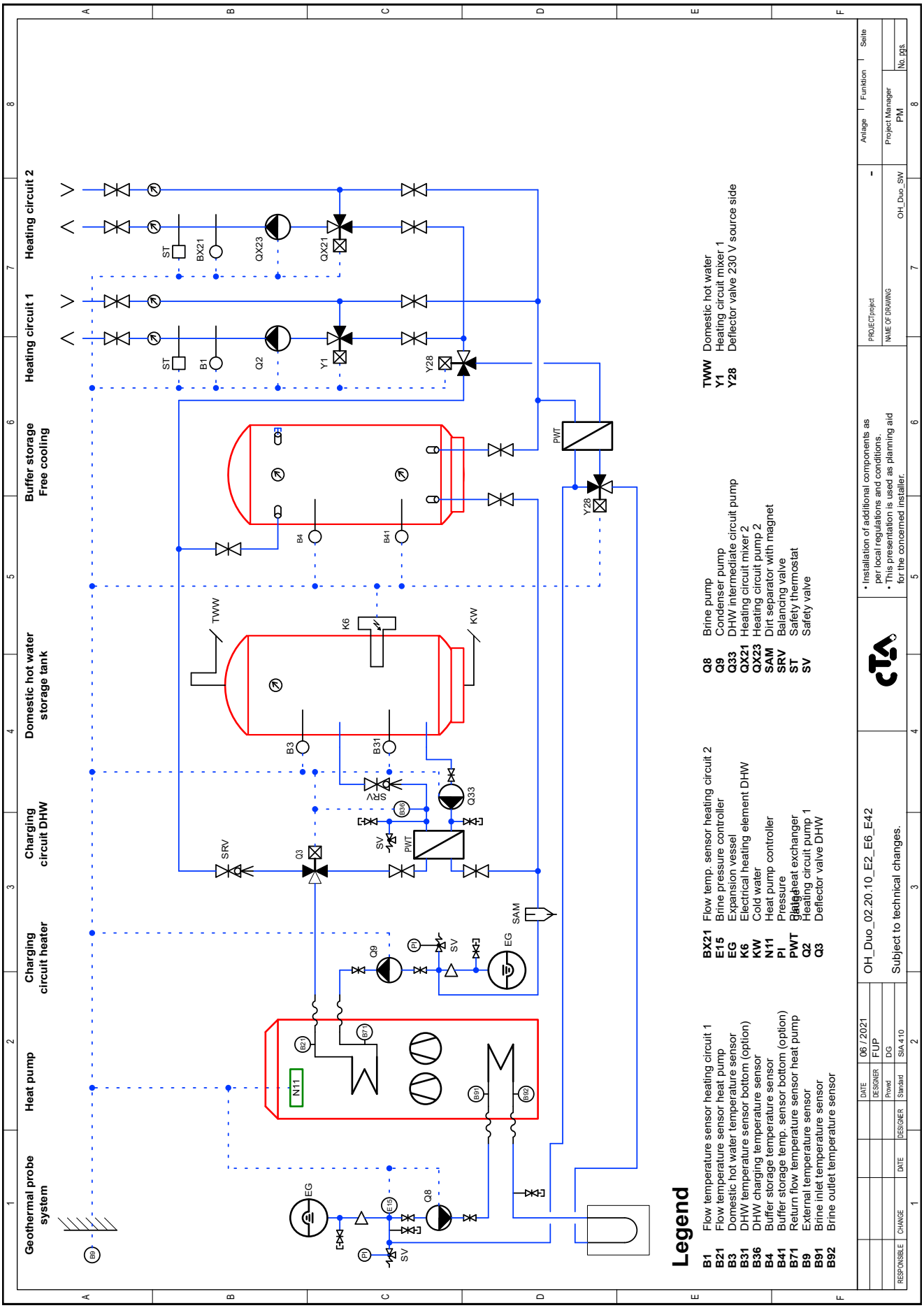
OH_Duo_02.20.10_E6_E42

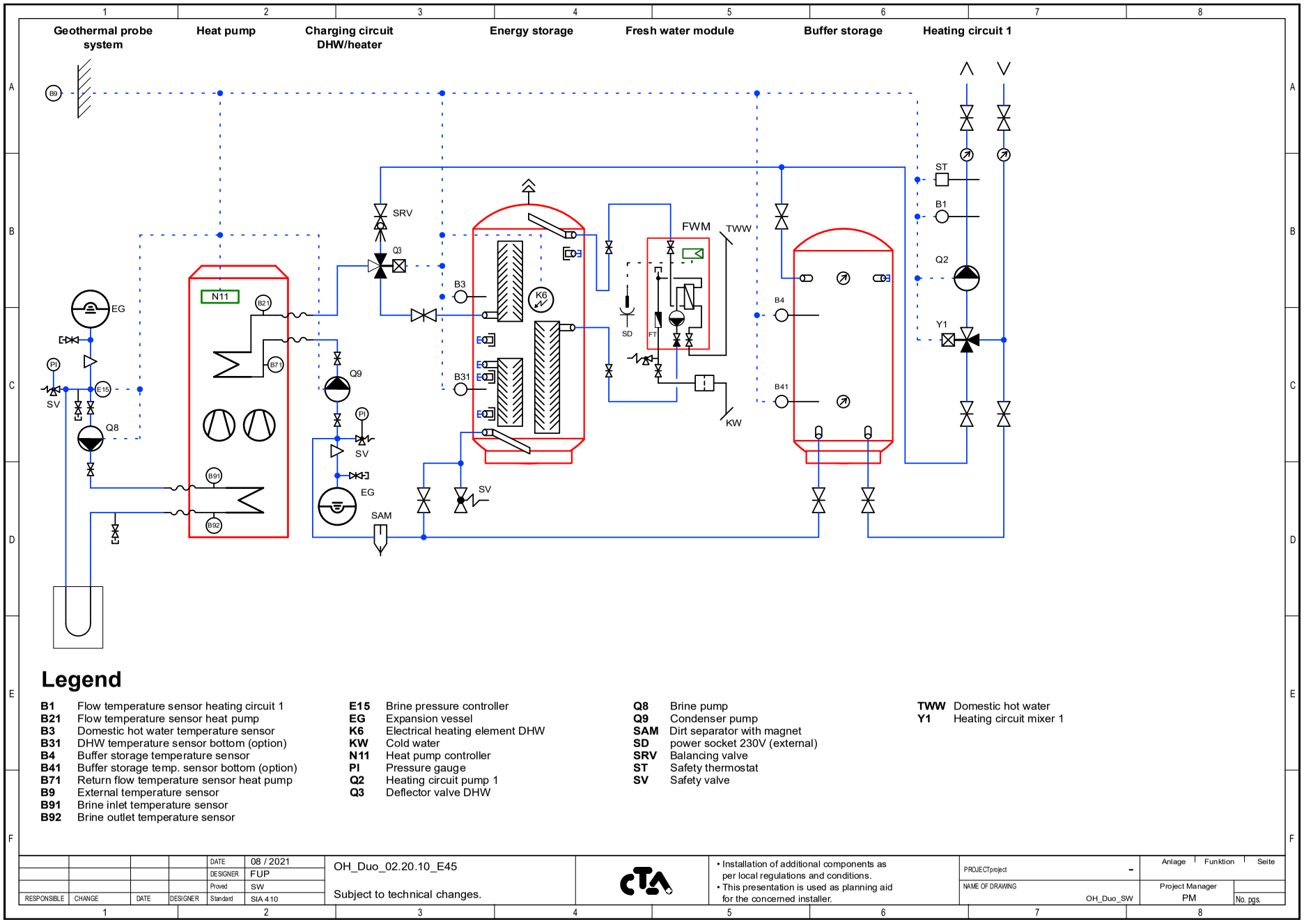
Subject to technical changes.

- Installation of additional components as per local regulations and conditions.
- This presentation is used as planning aid for the concerned installer.

PROJECTproject -
NAME OF DRAWING OH_Duo_SW

Anlage	Funktion	Seite
Project Manager PM		No. pgs.


Geothermal probe system
Heat pump
Charging circuit heater
Charging circuit DHW
Domestic hot water storage tank
Buffer storage Free cooling
Heating circuit 1
Heating circuit 2
Legend
B1 Flow temperature sensor heating circuit 1
B21 Flow temperature sensor heat pump
B3 Domestic hot water temperature sensor
B31 DHW temperature sensor bottom (option)
B36 DHW charging temperature sensor
B4 Buffer storage temperature sensor
B41 Buffer storage temp. sensor bottom (option)
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor
BX21 Flow temp. sensor heating circuit 2
E15 Brine pressure controller
EG Expansion vessel
K6 Electrical heating element DHW
KW Cold water
N11 Heat pump controller
PI Pressure
PWT Plate heat exchanger
Q2 Heating circuit pump 1
Q3 Deflector valve DHW
Q8 Brine pump
Q9 Condenser pump
Q33 DHW intermediate circuit pump
QX21 Heating circuit mixer 2
QX23 Heating circuit pump 2
SAM Dirt separator with magnet
SRV Balancing valve
ST Safety thermostat
SV Safety valve
TWW Domestic hot water
Y1 Heating circuit mixer 1
Y28 Deflector valve 230 V source side
• Installation of additional components as per local regulations and conditions.
• This presentation is used as planning aid for the concerned installer.
OH_Duo_02.20.10_E2_E6_E42
Subject to technical changes.
OH_Duo_SW
Project Manager PM



Legend

B1 Flow temperature sensor heating circuit 1
B21 Flow temperature sensor heat pump
B3 Domestic hot water temperature sensor
B31 DHW temperature sensor bottom (option)
B4 Buffer storage temperature sensor
B41 Buffer storage temp. sensor bottom (option)
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor

E15 Brine pressure controller
EG Expansion vessel
K6 Electrical heating element DHW
KW Cold water
N11 Heat pump controller
PI Pressure gauge
Q2 Heating circuit pump 1
Q3 Deflector valve DHW

Q8 Brine pump
Q9 Condenser pump
SAM Dirt separator with magnet
SD power socket 230V (external)
SRV Balancing valve
ST Safety thermostat
SV Safety valve

TWW Domestic hot water
Y1 Heating circuit mixer 1

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				DESIGNER	FUP
				Proved	SW
RESPONSIBLE	CHANGE	DATE	DESIGNER	Standard	SIA 410

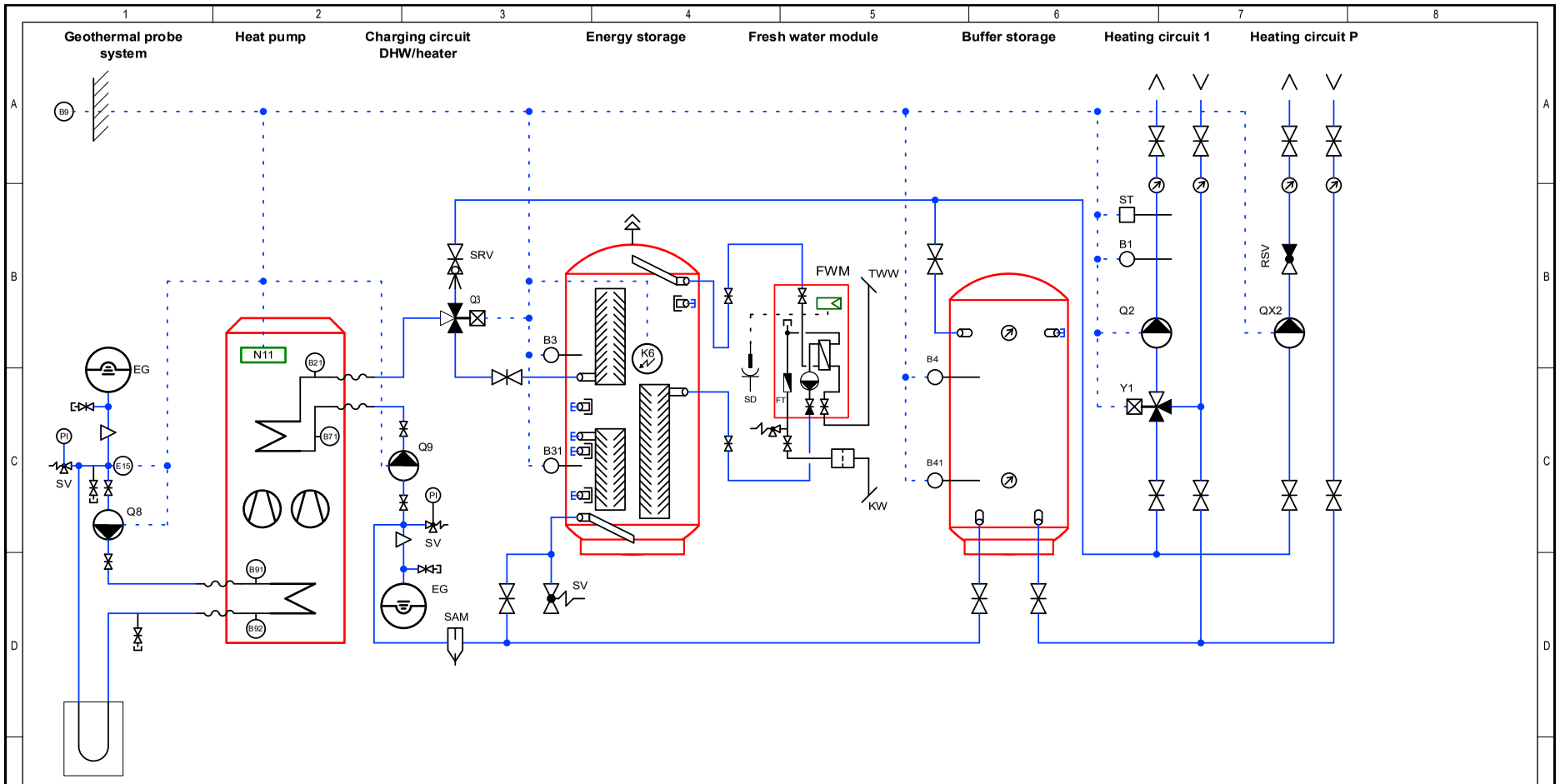
OH_Duo_02.20.10_E45

Subject to technical changes.

- Installation of additional components as per local regulations and conditions.
- This presentation is used as planning aid for the concerned installer.

PROJECTproject -
NAME OF DRAWING OH_Duo_SW

Anlage	Funktion	Seite
Project Manager PM		No. pgs.



Legend

B1 Flow temperature sensor heating circuit 1
B21 Flow temperature sensor heat pump
B3 Domestic hot water temperature sensor
B31 DHW temperature sensor bottom (option)
B4 Buffer storage temperature sensor
B41 Buffer storage temp. sensor bottom (option)
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor
E15 Brine pressure controller

EG Expansion vessel
KW Cold water
K6 Electrical heating element DHW
N11 Heat pump controller
PI Pressure gauge
Q2 Heating circuit pump 1
Q3 Deflector valve DHW
Q8 Brine pump
Q9 Condenser pump

QX2 Heating circuit pump P
RSV Non-return valve
SAM Dirt separator with magnet
SD power socket 230V (external)
SRV Balancing valve
ST Safety thermostat
SV Safety valve

TWW Domestic hot water
Y1 Heating circuit mixer 1

				DATE	08 / 2021
				DESIGNER	FUP
				Proved	SW
RESPONSIBLE	CHANGE	DATE	DESIGNER	Standard	SIA 410

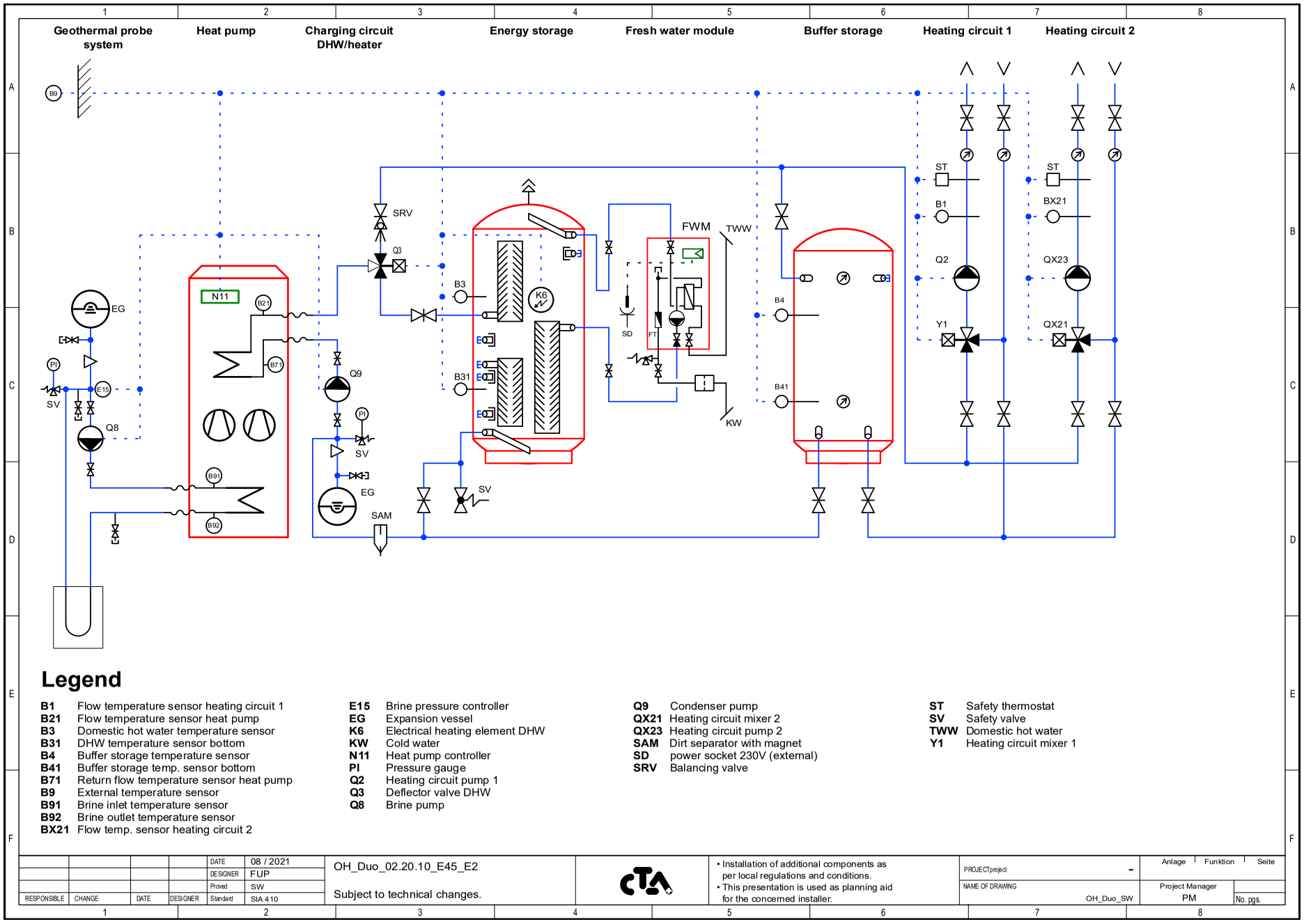
OH_Duo_02.20.10_E45_E1

Subject to technical changes.

- Installation of additional components as per local regulations and conditions.
- This presentation is used as planning aid for the concerned installer.

PROJECTproject -
NAME OF DRAWING OH_Duo_SW

Anlage	Funktion	Seite
Project Manager PM		No. pgs.



Legend

B1 Flow temperature sensor heating circuit 1
B21 Flow temperature sensor heat pump
B3 Domestic hot water temperature sensor
B31 DHW temperature sensor bottom
B4 Buffer storage temperature sensor
B41 Buffer storage temp. sensor bottom
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor
BX21 Flow temp. sensor heating circuit 2

E15 Brine pressure controller
EG Expansion vessel
K6 Electrical heating element DHW
KW Cold water
N11 Heat pump controller
PI Pressure gauge
Q2 Heating circuit pump 1
Q3 Deflector valve DHW
Q8 Brine pump

Q9 Condenser pump
QX21 Heating circuit mixer 2
QX23 Heating circuit pump 2
SAM Dirt separator with magnet
SD power socket 230V (external)
SRV Balancing valve

ST Safety thermostat
SV Safety valve
TWW Domestic hot water
Y1 Heating circuit mixer 1

				DATE	08 / 2021
				DESIGNER	FUP
				Proved	SW
RESPONSIBLE	CHANGE	DATE	DESIGNER	Standard	SIA 410

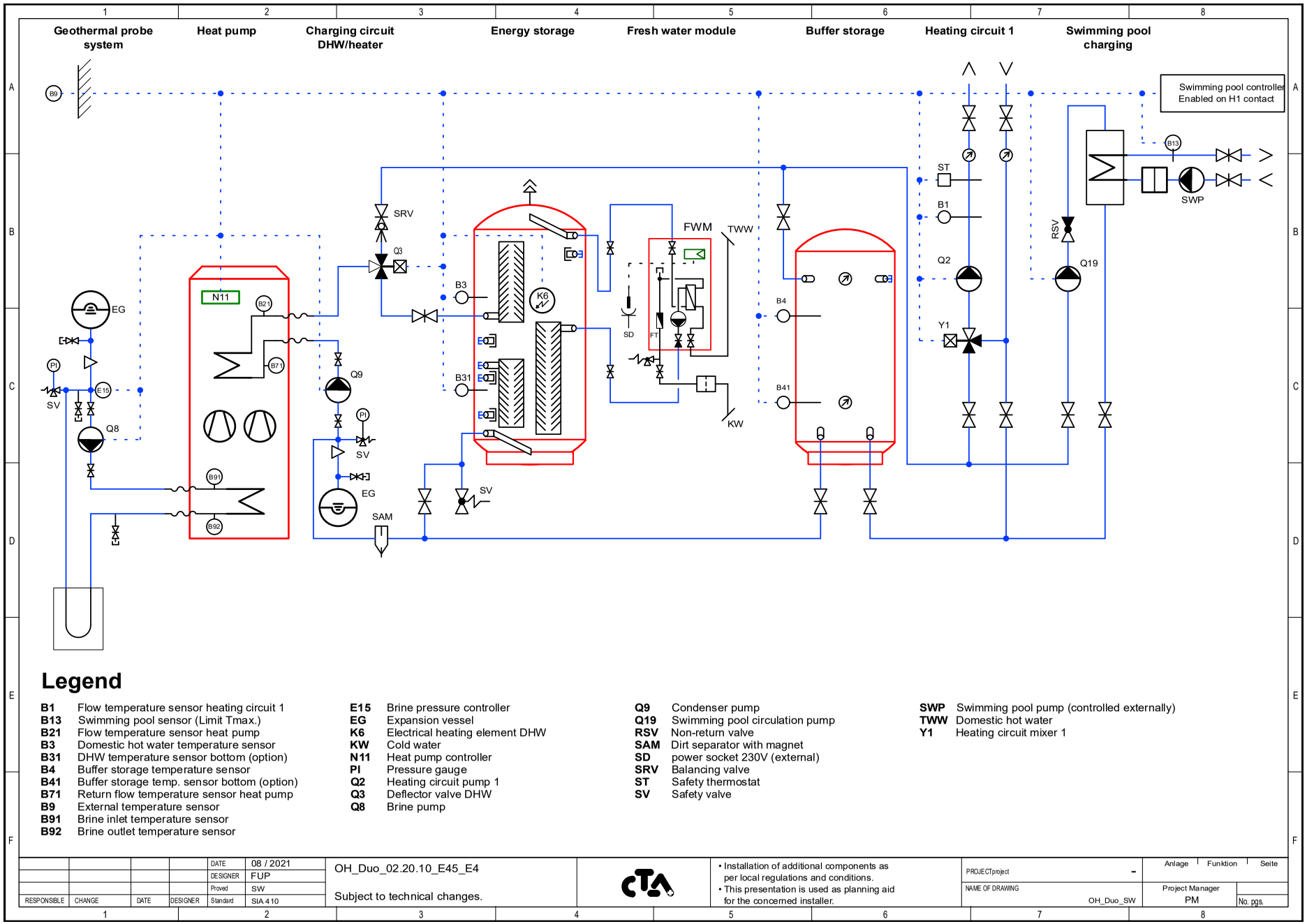
OH_Duo_02.20.10_E45_E2

Subject to technical changes.

- Installation of additional components as per local regulations and conditions.
- This presentation is used as planning aid for the concerned installer.

PROJECTproject -
NAME OF DRAWING OH_Duo_SW

Anlage	Funktion	Seite
Project Manager PM		No. pgs.



Legend

B1	Flow temperature sensor heating circuit 1
B13	Swimming pool sensor (Limit Tmax.)
B21	Flow temperature sensor heat pump
B3	Domestic hot water temperature sensor
B31	DHW temperature sensor bottom (option)
B4	Buffer storage temperature sensor
B41	Buffer storage temp. sensor bottom (option)
B71	Return flow temperature sensor heat pump
B9	External temperature sensor
B91	Brine inlet temperature sensor
B92	Brine outlet temperature sensor
E15	Brine pressure controller
EG	Expansion vessel
K6	Electrical heating element DHW
KW	Cold water
N11	Heat pump controller
PI	Pressure gauge
Q2	Heating circuit pump 1
Q3	Deflector valve DHW
Q8	Brine pump
Q9	Condenser pump
Q19	Swimming pool circulation pump
RSV	Non-return valve
SAM	Dirt separator with magnet
SD	power socket 230V (external)
SRV	Balancing valve
ST	Safety thermostat
SV	Safety valve
SWP	Swimming pool pump (controlled externally)
TWW	Domestic hot water
Y1	Heating circuit mixer 1

				DATE	08 / 2021
				DESIGNER	FUP
				Proved	SW
RESPONSIBLE	CHANGE	DATE	DESIGNER	Standard	SIA 410

OH_Duo_02.20.10_E45_E4

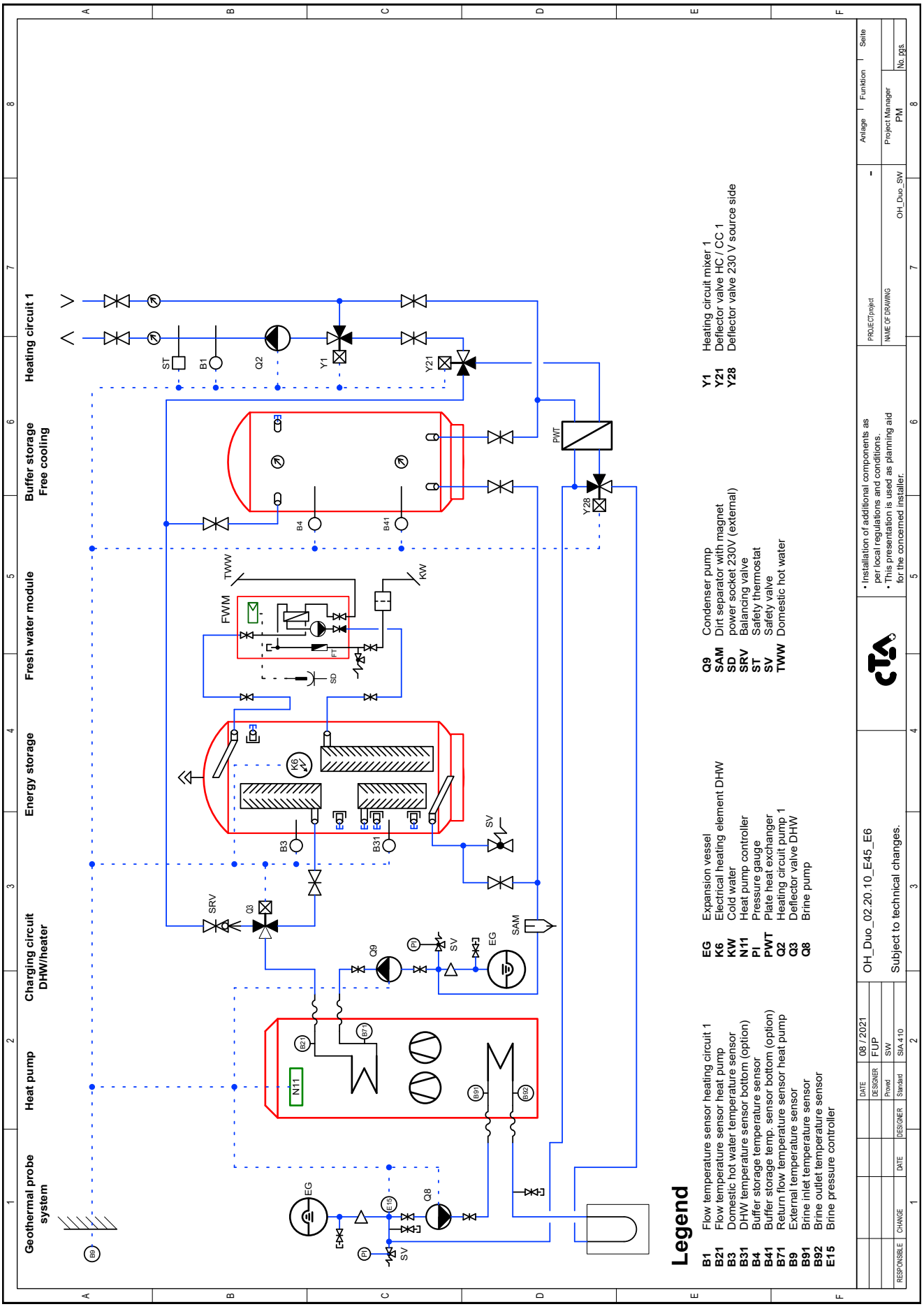
Subject to technical changes.

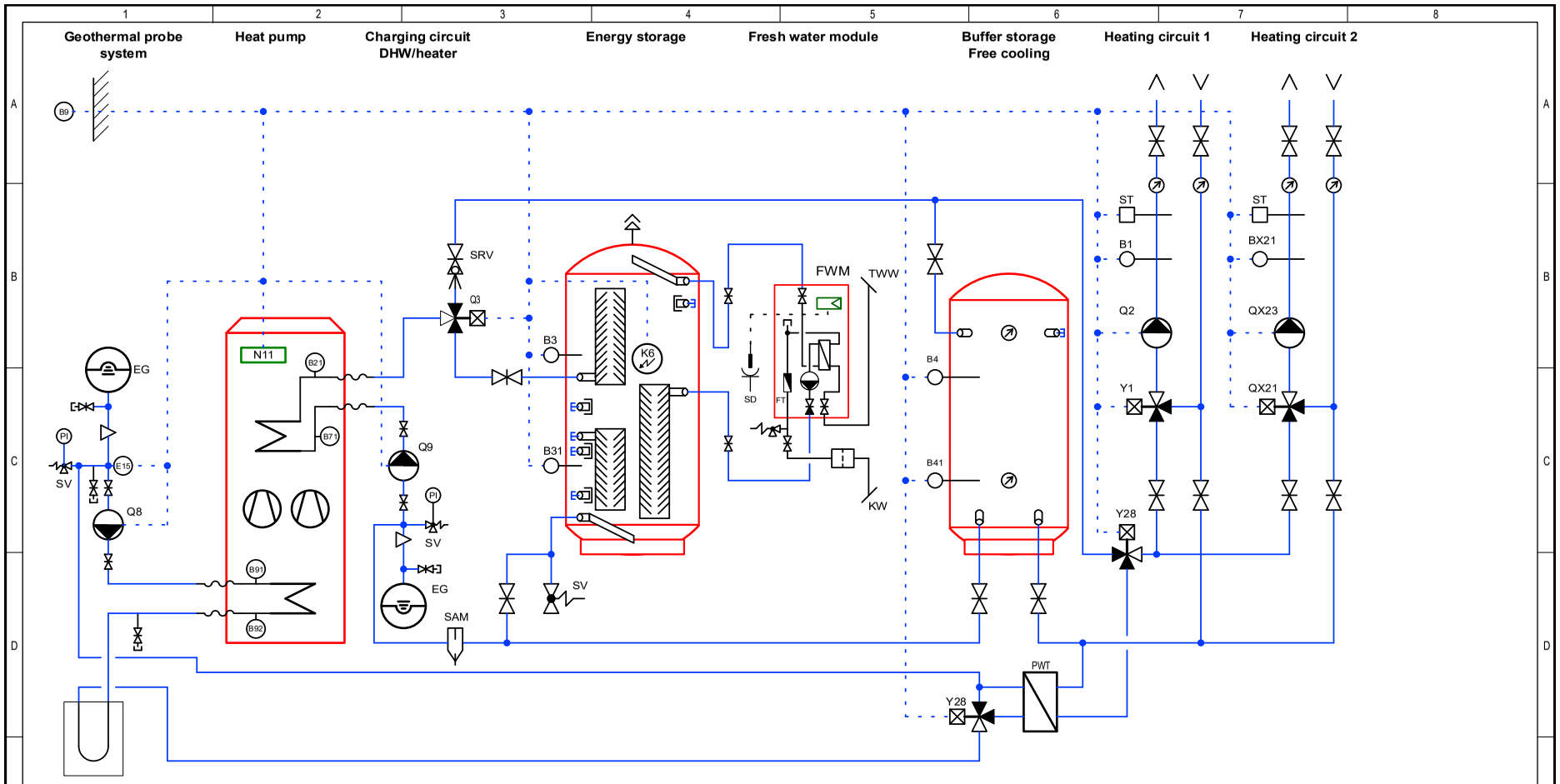
- Installation of additional components as per local regulations and conditions.
- This presentation is used as planning aid for the concerned installer.

PROJECTproject -

NAME OF DRAWING OH_Duo_SW

Anlage	Funktion	Seite
Project Manager PM		No. pgs.


Geothermal probe system
Heat pump
Charging circuit DHW/heater
Energy storage
Fresh water module
Buffer storage Free cooling
Heating circuit 1
Legend
B1 Flow temperature sensor heating circuit 1
B21 Flow temperature sensor heat pump
B3 Domestic hot water temperature sensor
B31 DHW temperature sensor bottom (option)
B4 Buffer storage temperature sensor
B41 Buffer storage temp. sensor bottom (option)
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor
E15 Brine pressure controller
EG Expansion vessel
K6 Electrical heating element DHW
KW Cold water
N11 Heat pump controller
PI Pressure gauge
PWT Plate heat exchanger
Q2 Heating circuit pump 1
Q3 Deflector valve DHW
Q8 Brine pump
Q9 Condenser pump
SAM Dirt separator with magnet
SD power socket 230V (external)
SRV Balancing valve
ST Safety thermostat
SV Safety valve
TWW Domestic hot water
Y1 Heating circuit mixer 1
Y21 Deflector valve HC / CC 1
Y28 Deflector valve 230 V source side
• Installation of additional components as per local regulations and conditions.
• This presentation is used as planning aid for the concerned installer.
OH_Duo_02.20.10_E45_E6
Subject to technical changes.
OH_Duo_SW
Project Manager PM



Legend

B1 Flow temperature sensor heating circuit 1
B21 Flow temperature sensor heat pump
B3 Domestic hot water temperature sensor
B31 DHW temperature sensor bottom (option)
B4 Buffer storage temperature sensor
B41 Buffer storage temp. sensor bottom (option)
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor
BX21 Flow temp. sensor heating circuit 2

E15 Brine pressure controller
EG Expansion vessel
K6 Electrical heating element DHW
KW Cold water
N11 Heat pump controller
PI Pressure gauge
PWT Plate heat exchanger
Q2 Heating circuit pump 1
Q3 Deflector valve DHW
Q8 Brine pump

Q9 Condenser pump
QX21 Heating circuit mixer 2
QX23 Heating circuit pump 2
SAM Dirt separator with magnet
SD power socket 230V (external)
SRV Balancing valve
ST Safety thermostat
SV Safety valve

TWW Domestic hot water
Y1 Heating circuit mixer 1
Y28 Deflector valve 230 V source side

				DATE	08 / 2021
				DESIGNER	FUP
				Proved	SW
RESPONSIBLE	CHANGE	DATE	DESIGNER	Standard	SIA 410

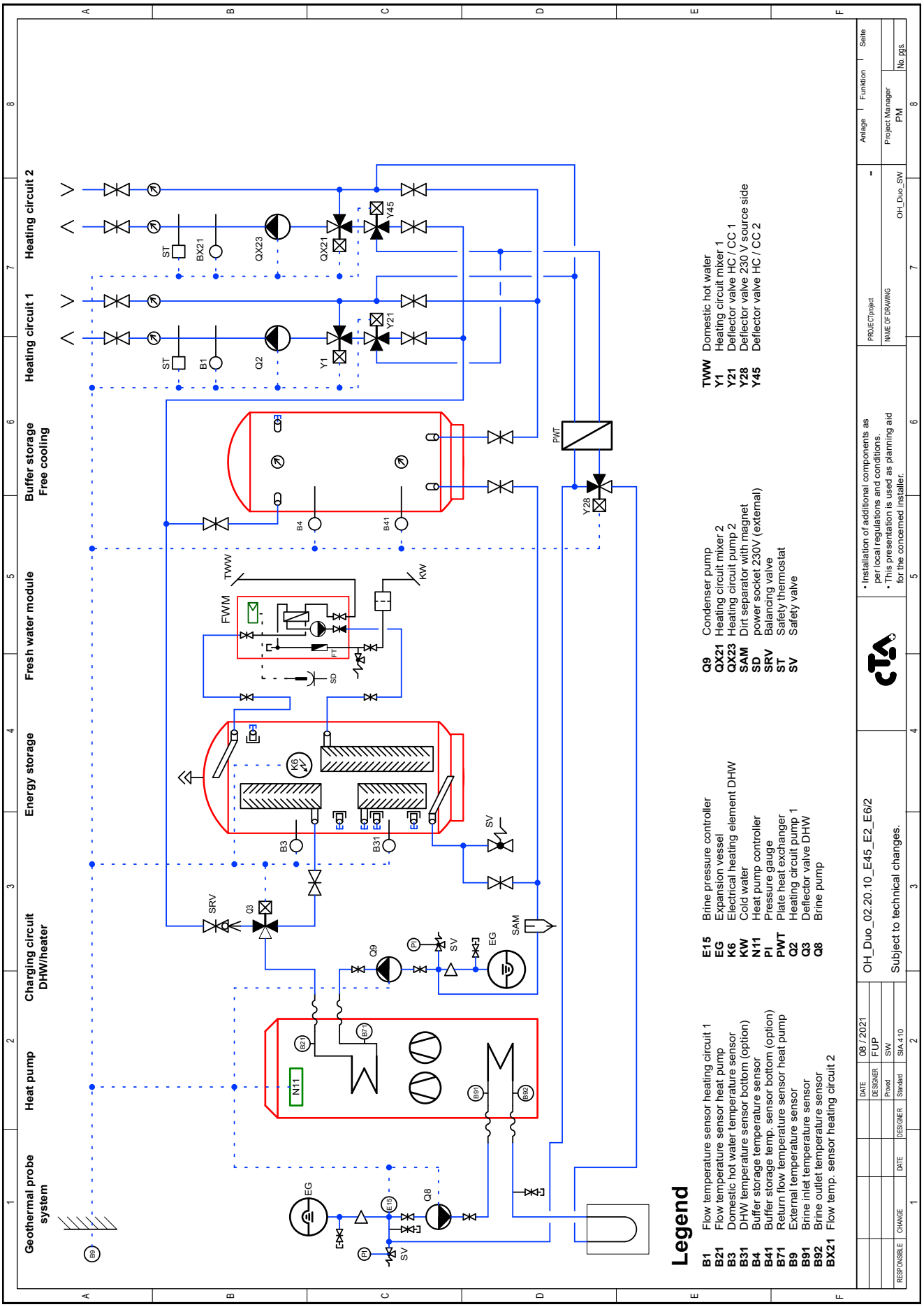
OH_Duo_02.20.10_E45_E2_E6

Subject to technical changes.

- Installation of additional components as per local regulations and conditions.
- This presentation is used as planning aid for the concerned installer.

PROJECTproject -
NAME OF DRAWING OH_Duo_SW

Anlage	Funktion	Seite
Project Manager PM		No. pgs.


Geothermal probe system
Heat pump
Charging circuit DHW/heater
Energy storage
Fresh water module
Buffer storage Free cooling
Heating circuit 1
Heating circuit 2
Legend
B1 Flow temperature sensor heating circuit 1
B21 Flow temperature sensor heat pump
B3 Domestic hot water temperature sensor
B31 DHW temperature sensor bottom (option)
B4 Buffer storage temperature sensor
B41 Buffer storage temp. sensor bottom (option)
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor
BX21 Flow temp. sensor heating circuit 2
E15 Brine pressure controller
EG Expansion vessel
K6 Electrical heating element DHW
KW Cold water
N11 Heat pump controller
PI Pressure gauge
PWT Plate heat exchanger
Q2 Heating circuit pump 1
Q3 Deflector valve DHW
Q8 Brine pump
Q9 Condenser pump
QX21 Heating circuit mixer 2
QX23 Heating circuit pump 2
SAM Dirt separator with magnet
SD power socket 230V (external)
SRV Balancing valve
ST Safety thermostat
SV Safety valve
TWW Domestic hot water
Y1 Heating circuit mixer 1
Y21 Deflector valve HC / CC 1
Y28 Deflector valve 230 V source side
Y45 Deflector valve HC / CC 2
• Installation of additional components as per local regulations and conditions.
• This presentation is used as planning aid for the concerned installer.
OH_Duo_02.20.10_E45_E2_E6/2
Subject to technical changes.
PROJECTproject
NAME OF DRAWING
OH_Duo_SW
Project Manager PM
Anlage
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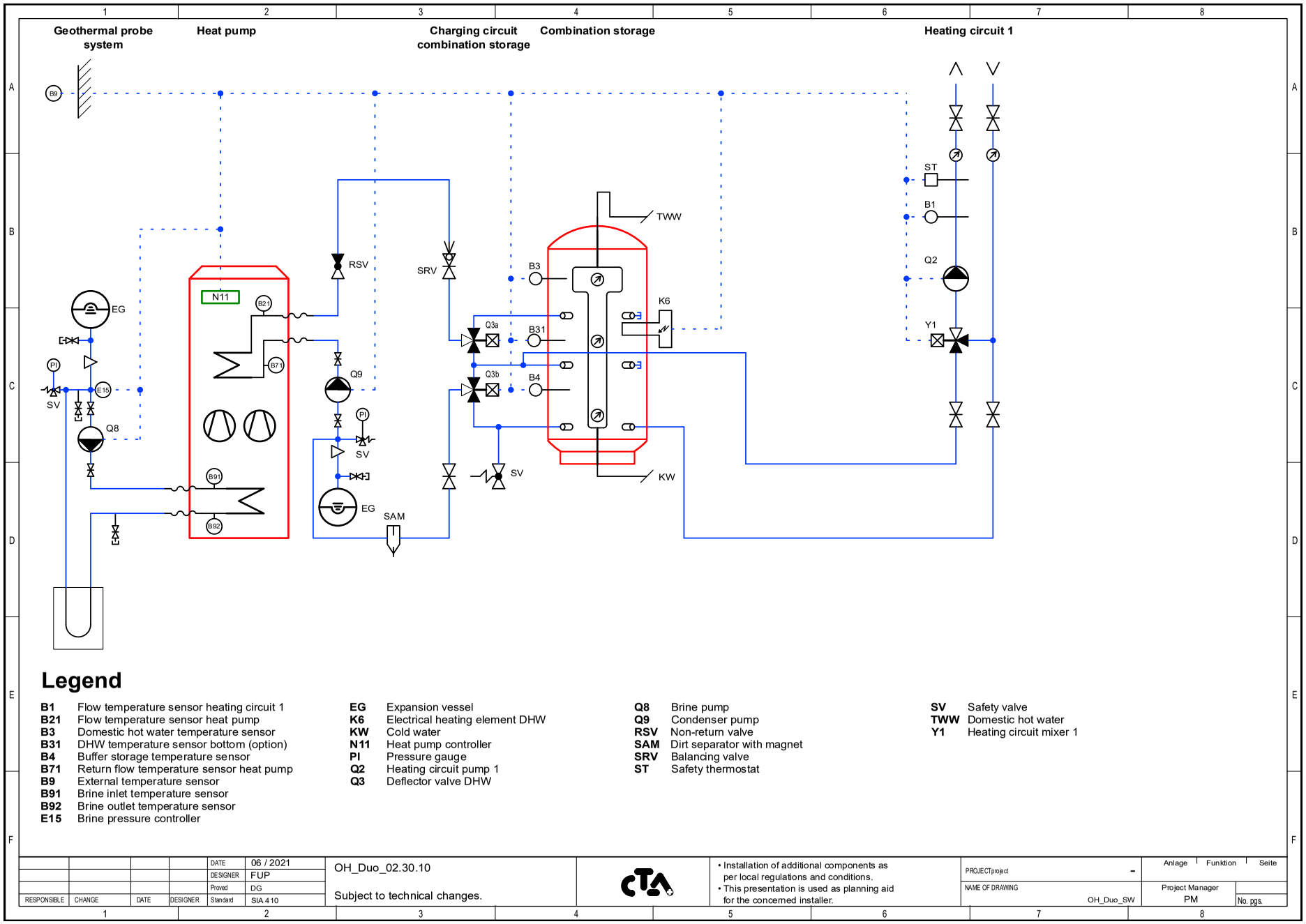
Seite
No. pgs.
DATE 08 / 2021
DESIGNER FUP
Proved SW
Standard SIA 410
RESPONSIBLE CHANGE DATE DESIGNER



Legend

B1 Flow temperature sensor heating circuit 1
B21 Flow temperature sensor heat pump
B3 Domestic hot water temperature sensor
B31 DHW temperature sensor bottom (option)
B4 Buffer storage temperature sensor
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor
E15 Brine pressure controller

EG Expansion vessel
K6 Electrical heating element DHW
KW Cold water
N11 Heat pump controller
PI Pressure gauge
Q2 Heating circuit pump 1
Q3 Deflector valve DHW

Q8 Brine pump
Q9 Condenser pump
RSV Non-return valve
SAM Dirt separator with magnet
SRV Balancing valve
ST Safety thermostat

SV Safety valve
TWW Domestic hot water
Y1 Heating circuit mixer 1

				DATE	06 / 2021
				DESIGNER	FUP
				Proved	DG
RESPONSIBLE	CHANGE	DATE	DESIGNER	Standard	SIA 410

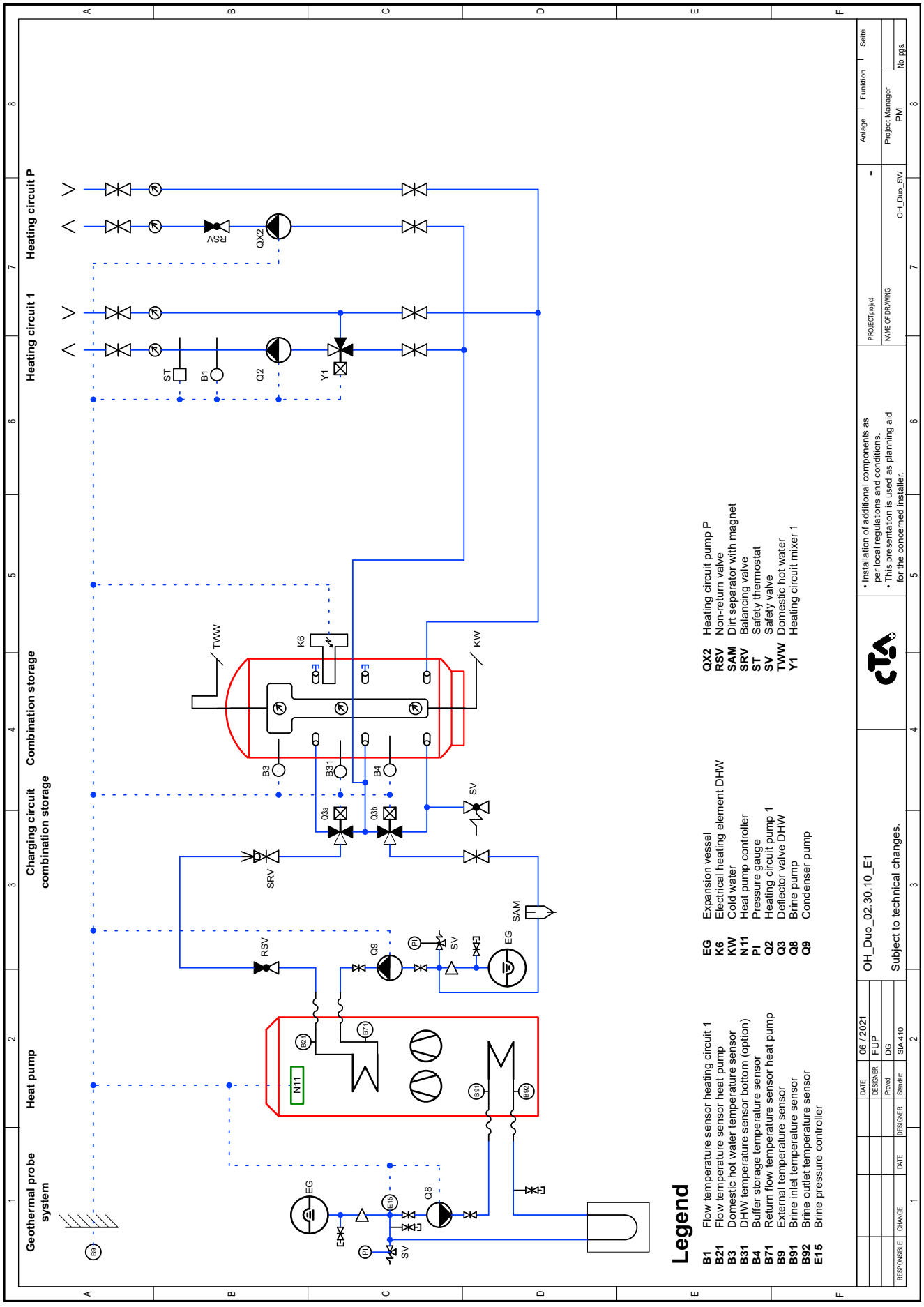
OH_Duo_02.30.10

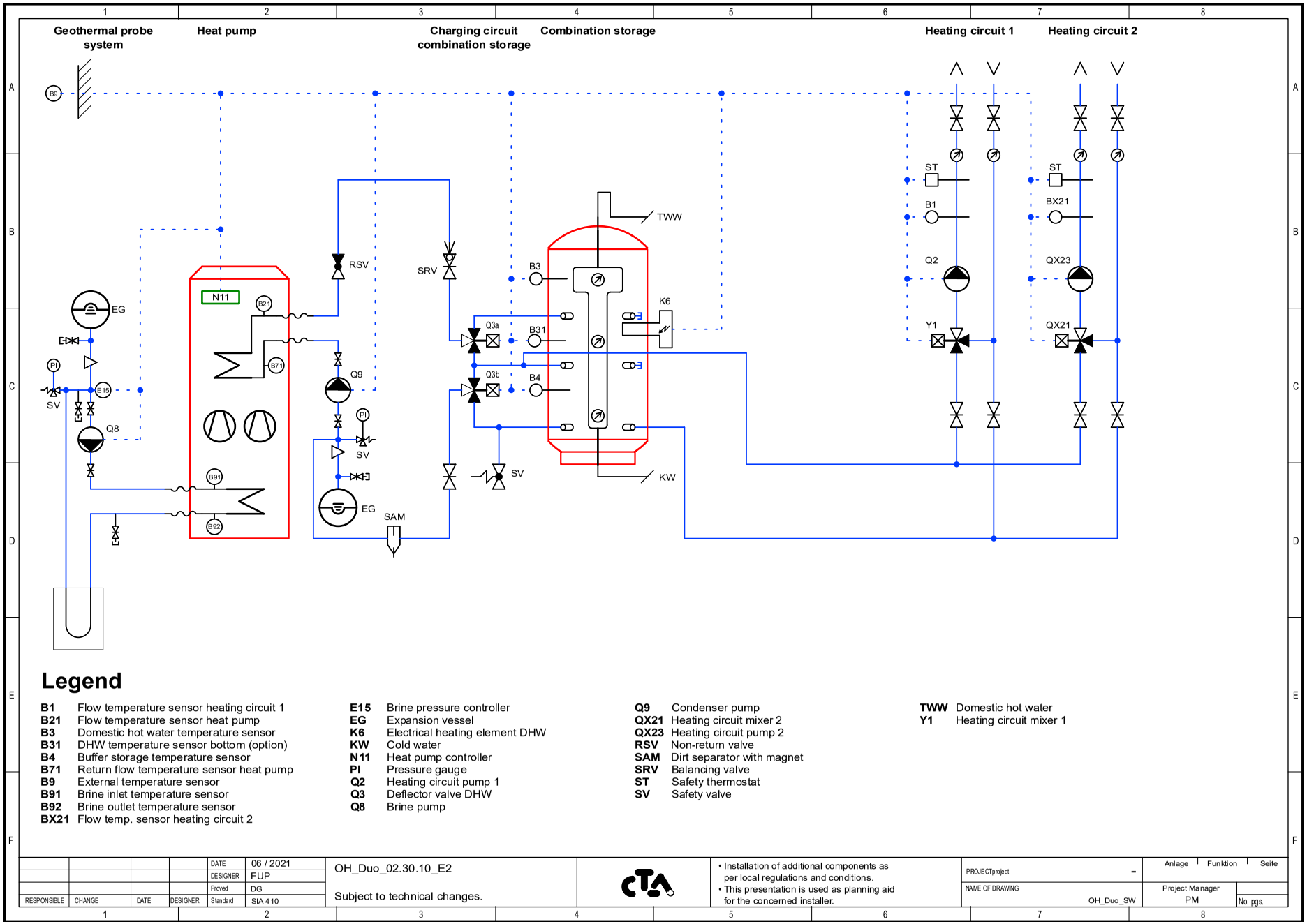
Subject to technical changes.

- Installation of additional components as per local regulations and conditions.
- This presentation is used as planning aid for the concerned installer.

PROJECTproject -
NAME OF DRAWING OH_Duo_SW

Anlage | Funktion | Seite
Project Manager PM
No. pgs.


Geothermal probe system
Heat pump
Charging circuit combination storage
Combination storage
Heating circuit 1
Heating circuit P
Legend
B1 Flow temperature sensor heating circuit 1
B21 Flow temperature sensor heat pump
B3 Domestic hot water temperature sensor
B31 DHW temperature sensor bottom (option)
B4 Buffer storage temperature sensor
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor
E15 Brine pressure controller
EG Expansion vessel
K6 Electrical heating element DHW
KW Cold water
N11 Heat pump controller
PI Pressure gauge
Q2 Heating circuit pump 1
Q3 Deflector valve DHW
Q8 Brine pump
Q9 Condenser pump
QX2 Heating circuit pump P
RSV Non-return valve
SAM Dirt separator with magnet
SRV Balancing valve
ST Safety thermostat
SV Safety valve
TWW Domestic hot water
Y1 Heating circuit mixer 1
OH_Duo_02.30.10_E1
Subject to technical changes.
• Installation of additional components as per local regulations and conditions.
• This presentation is used as planning aid for the concerned installer.
OH_Duo_SW
Project Manager PM



Legend

B1 Flow temperature sensor heating circuit 1
B21 Flow temperature sensor heat pump
B3 Domestic hot water temperature sensor
B31 DHW temperature sensor bottom (option)
B4 Buffer storage temperature sensor
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor
BX21 Flow temp. sensor heating circuit 2
E15 Brine pressure controller
EG Expansion vessel
K6 Electrical heating element DHW
KW Cold water
N11 Heat pump controller
PI Pressure gauge
Q2 Heating circuit pump 1
Q3 Deflector valve DHW
Q8 Brine pump
Q9 Condenser pump
QX21 Heating circuit mixer 2
QX23 Heating circuit pump 2
RSV Non-return valve
SAM Dirt separator with magnet
SRV Balancing valve
ST Safety thermostat
SV Safety valve
TWW Domestic hot water
Y1 Heating circuit mixer 1

				DATE	06 / 2021
				DESIGNER	FUP
				Proved	DG
RESPONSIBLE	CHANGE	DATE	DESIGNER	Standard	SIA 410

OH_Duo_02.30.10_E2

Subject to technical changes.

- Installation of additional components as per local regulations and conditions.
- This presentation is used as planning aid for the concerned installer.

PROJECTproject -
NAME OF DRAWING OH_Duo_SW

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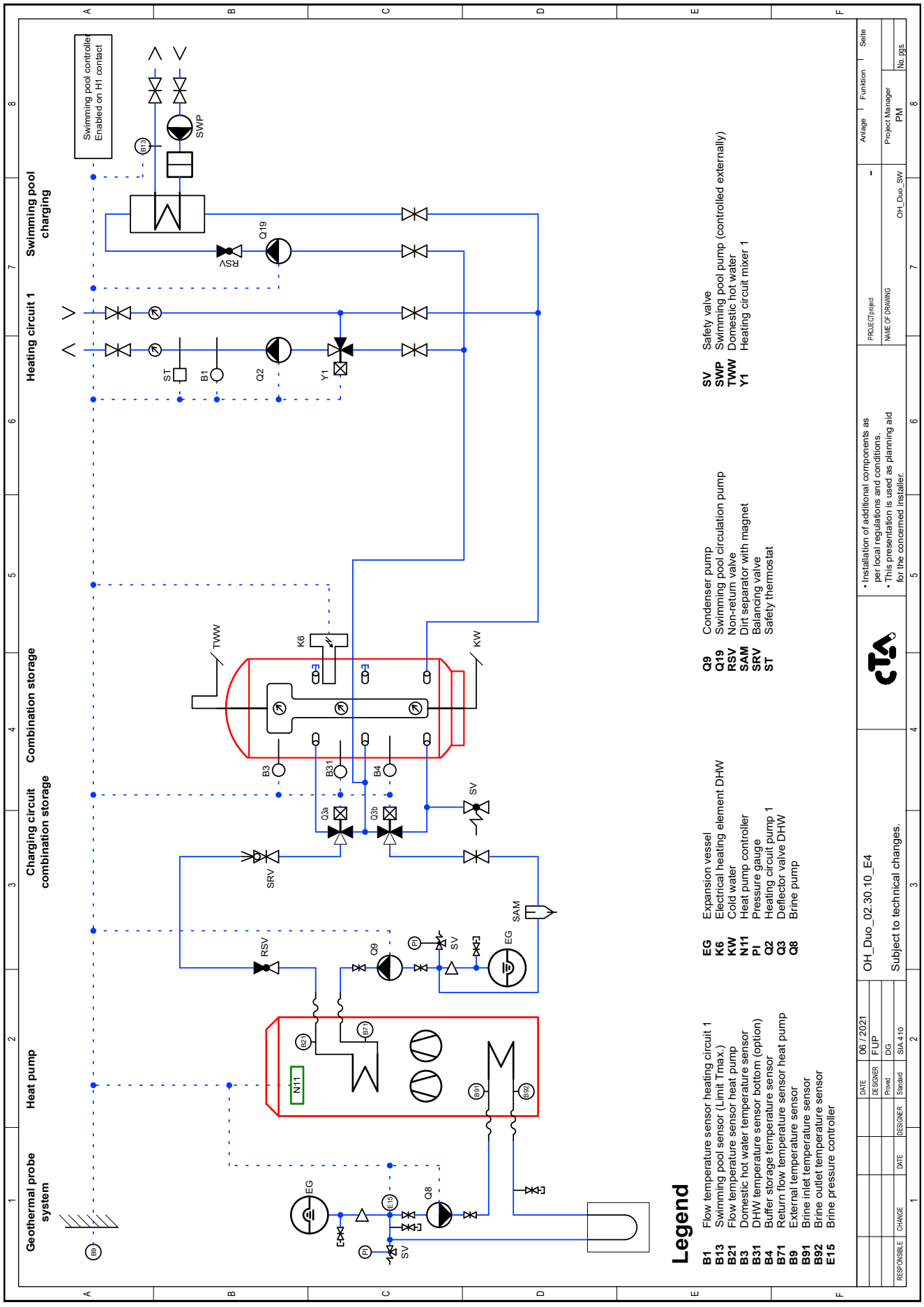
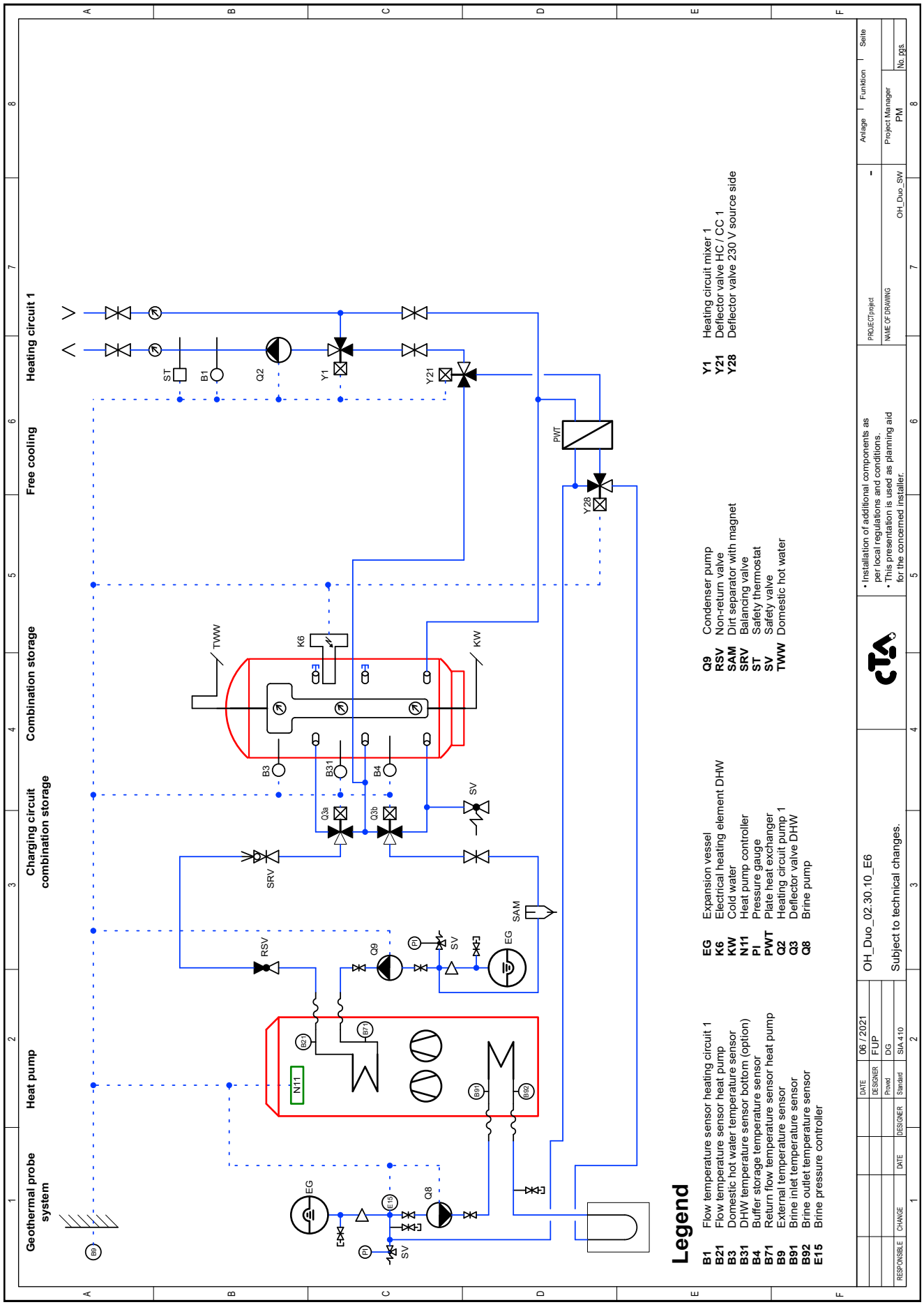
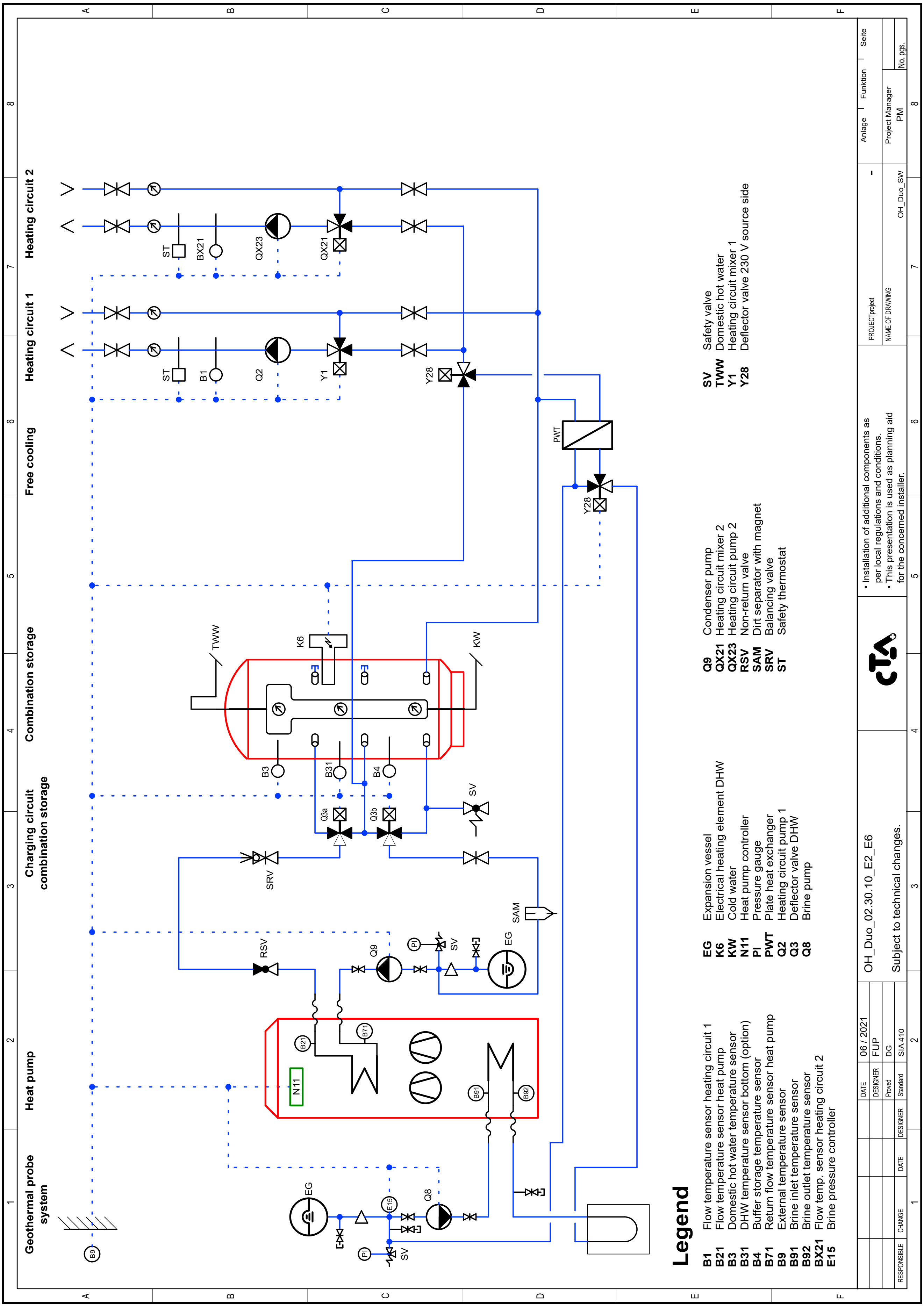
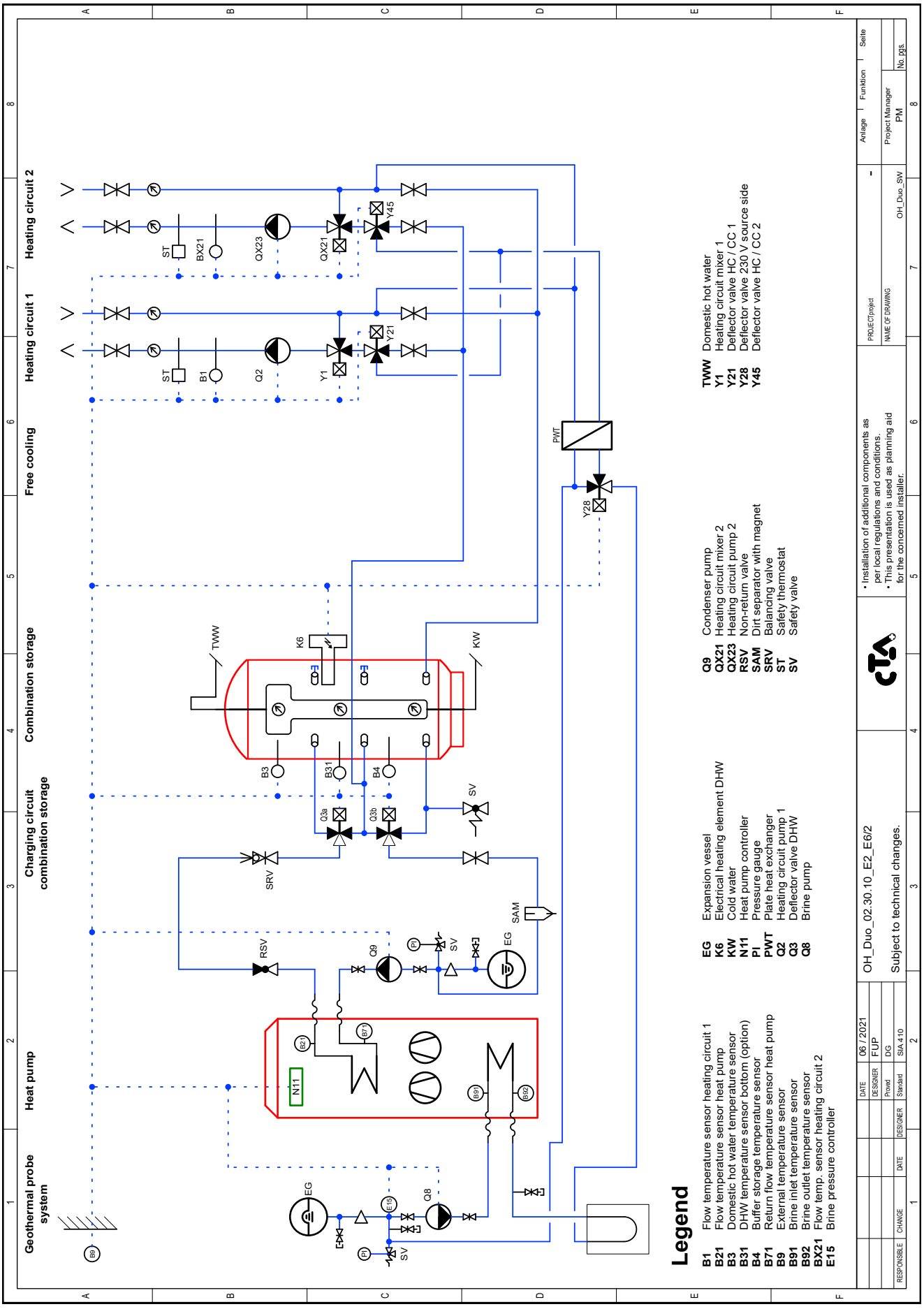
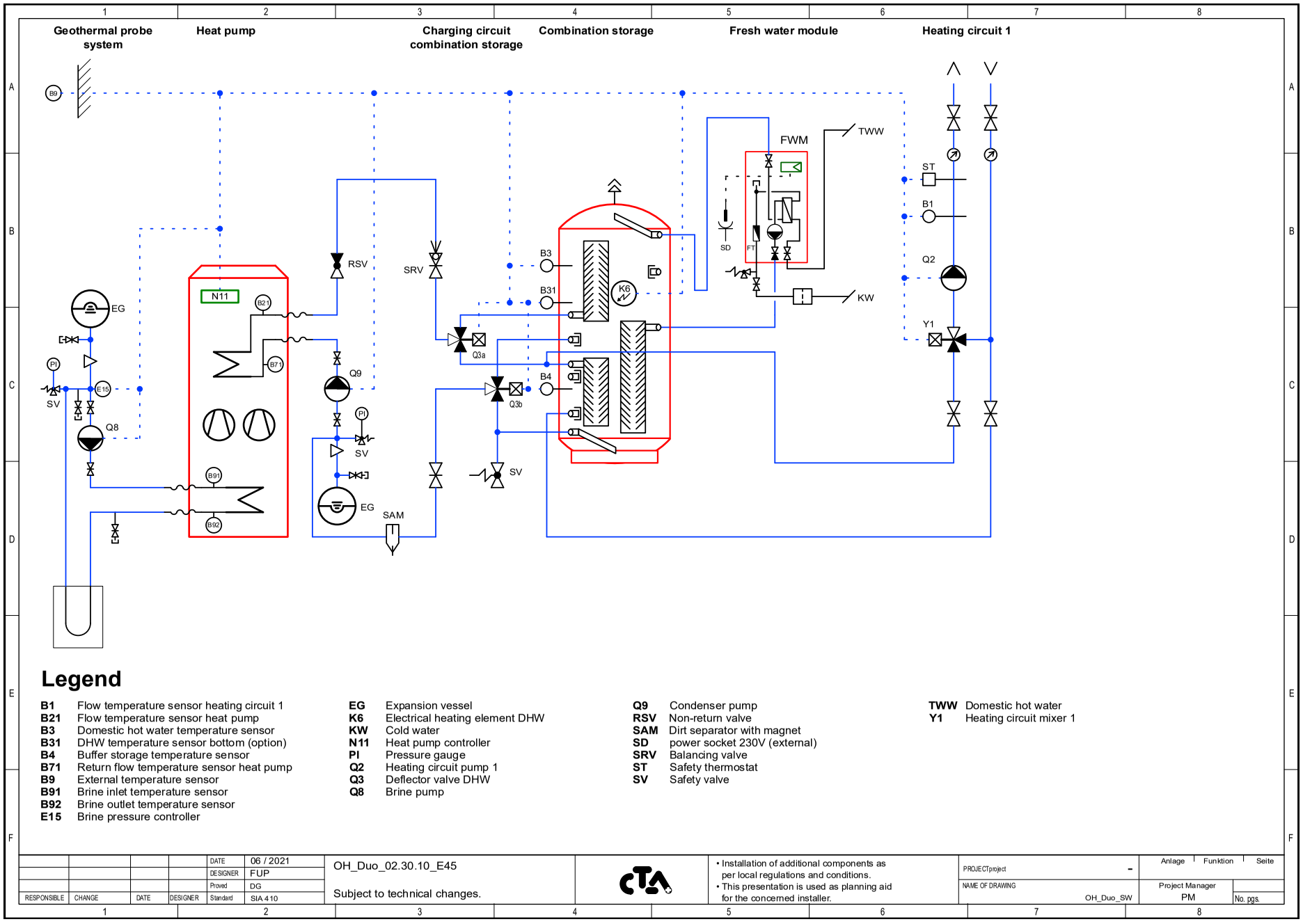
Project Manager PM		No. pgs.


Geothermal probe system
Heat pump
Charging circuit combination storage
Combination storage
Heating circuit 1
Swimming pool charging
Swimming pool controller Enabled on H1 contact
SWP
RSV
Q19
ST
B1
Q2
Y1
TWW
K6
KW
B3
B31
B4
Q3a
Q3b
SV
SRV
SAM
EG
Q9
N11
B21
B71
B91
B92
Q8
E15
B9
Legend
B1 Flow temperature sensor heating circuit 1
B13 Swimming pool sensor (Limit Tmax.)
B21 Flow temperature sensor heat pump
B3 Domestic hot water temperature sensor
B31 DHW temperature sensor bottom (option)
B4 Buffer storage temperature sensor
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor
E15 Brine pressure controller
EG Expansion vessel
K6 Electrical heating element DHW
KW Cold water
N11 Heat pump controller
PI Pressure gauge
Q2 Heating circuit pump 1
Q3 Deflector valve DHW
Q8 Brine pump
Q9 Condenser pump
Q19 Swimming pool circulation pump
RSV Non-return valve
SAM Dirt separator with magnet
SRV Balancing valve
ST Safety thermostat
SV Safety valve
SWP Swimming pool pump (controlled externally)
TWW Domestic hot water
Y1 Heating circuit mixer 1
• Installation of additional components as per local regulations and conditions.
• This presentation is used as planning aid for the concerned installer.
OH_Duo_02.30.10_E4
Subject to technical changes.
OH_Duo_SW
Project Manager PM
RESPONSIBLE CHANGE DATE DESIGNER
DATE 06 / 2021
DESIGNER FUP
Proved DG
Standard SIA 410


Geothermal probe system
Heat pump
Charging circuit combination storage
Combination storage
Free cooling
Heating circuit 1
Legend
B1 Flow temperature sensor heating circuit 1
B21 Flow temperature sensor heat pump
B3 Domestic hot water temperature sensor
B31 DHW temperature sensor bottom (option)
B4 Buffer storage temperature sensor
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor
E15 Brine pressure controller
EG Expansion vessel
K6 Electrical heating element DHW
KW Cold water
N11 Heat pump controller
PI Pressure gauge
PWT Plate heat exchanger
Q2 Heating circuit pump 1
Q3 Deflector valve DHW
Q8 Brine pump
Q9 Condenser pump
RSV Non-return valve
SAM Dirt separator with magnet
SRV Balancing valve
ST Safety thermostat
SV Safety valve
TWW Domestic hot water
Y1 Heating circuit mixer 1
Y21 Deflector valve HC / CC 1
Y28 Deflector valve 230 V source side
OH_Duo_02.30.10_E6
Subject to technical changes.
• Installation of additional components as per local regulations and conditions.
• This presentation is used as planning aid for the concerned installer.
PROJECT/project
NAME OF DRAWING
OH_Duo_SW
Project Manager
PM
No. pgs.
DATE 06 / 2021
DESIGNER FUP
Proved DG
Standard SIA 410
RESPONSIBLE CHANGE DATE DESIGNER


Geothermal probe system
Heat pump
Charging circuit combination storage
Combination storage
Free cooling
Heating circuit 1
Heating circuit 2
Legend
B1 Flow temperature sensor heating circuit 1
B21 Flow temperature sensor heat pump
B3 Domestic hot water temperature sensor
B31 DHW temperature sensor bottom (option)
B4 Buffer storage temperature sensor
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor
BX21 Flow temp. sensor heating circuit 2
E15 Brine pressure controller
EG Expansion vessel
K6 Electrical heating element DHW
KW Cold water
N11 Heat pump controller
PI Pressure gauge
PWT Plate heat exchanger
Q2 Heating circuit pump 1
Q3 Deflector valve DHW
Q8 Brine pump
Q9 Condenser pump
QX21 Heating circuit mixer 2
QX23 Heating circuit pump 2
RSV Non-return valve
SAM Dirt separator with magnet
SRV Balancing valve
ST Safety thermostat
SV Safety valve
TWW Domestic hot water
Y1 Heating circuit mixer 1
Y28 Deflector valve 230 V source side
OH_Duo_02.30.10_E2_E6
Subject to technical changes.
• Installation of additional components as per local regulations and conditions.
• This presentation is used as planning aid for the concerned installer.
OH_Duo_SW
Project Manager
PM
06 / 2021
FUP
DG
SIA 410


Geothermal probe system
Heat pump
Charging circuit combination storage
Combination storage
Free cooling
Heating circuit 1
Heating circuit 2
Legend
B1 Flow temperature sensor heating circuit 1
B21 Flow temperature sensor heat pump
B3 Domestic hot water temperature sensor
B31 DHW temperature sensor bottom (option)
B4 Buffer storage temperature sensor
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor
BX21 Flow temp. sensor heating circuit 2
E15 Brine pressure controller
EG Expansion vessel
K6 Electrical heating element DHW
KW Cold water
N11 Heat pump controller
PI Pressure gauge
PWT Plate heat exchanger
Q2 Heating circuit pump 1
Q3 Deflector valve DHW
Q8 Brine pump
Q9 Condenser pump
QX21 Heating circuit mixer 2
QX23 Heating circuit pump 2
RSV Non-return valve
SAM Dirt separator with magnet
SRV Balancing valve
ST Safety thermostat
SV Safety valve
TWW Domestic hot water
Y1 Heating circuit mixer 1
Y21 Deflector valve HC / CC 1
Y28 Deflector valve 230 V source side
Y45 Deflector valve HC / CC 2
• Installation of additional components as per local regulations and conditions.
• This presentation is used as planning aid for the concerned installer.
OH_Duo_02.30.10_E2_E6/2
Subject to technical changes.
OH_Duo_SW
Project Manager PM



Legend

B1 Flow temperature sensor heating circuit 1
B21 Flow temperature sensor heat pump
B3 Domestic hot water temperature sensor
B31 DHW temperature sensor bottom (option)
B4 Buffer storage temperature sensor
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor
E15 Brine pressure controller

EG Expansion vessel
K6 Electrical heating element DHW
KW Cold water
N11 Heat pump controller
PI Pressure gauge
Q2 Heating circuit pump 1
Q3 Deflector valve DHW
Q8 Brine pump

Q9 Condenser pump
RSV Non-return valve
SAM Dirt separator with magnet
SD power socket 230V (external)
SRV Balancing valve
ST Safety thermostat
SV Safety valve

TWW Domestic hot water
Y1 Heating circuit mixer 1

				DATE	06 / 2021
				DESIGNER	FUP
				Proved	DG
RESPONSIBLE	CHANGE	DATE	DESIGNER	Standard	SIA 410

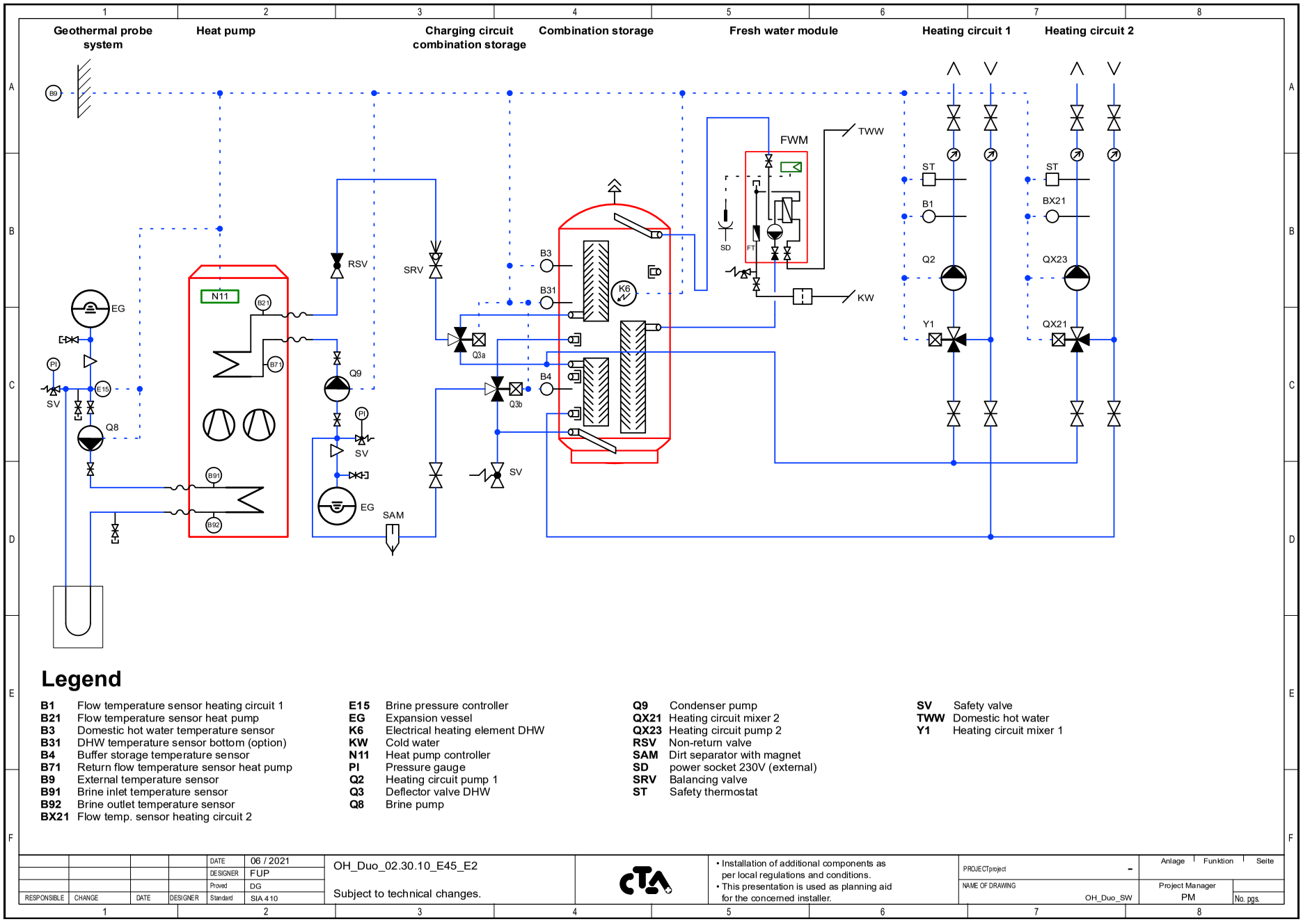
OH_Duo_02.30.10_E45

Subject to technical changes.

- Installation of additional components as per local regulations and conditions.
- This presentation is used as planning aid for the concerned installer.

PROJECTproject -
NAME OF DRAWING OH_Duo_SW

Anlage | Funktion | Seite
Project Manager PM
No. pgs.



Legend

B1 Flow temperature sensor heating circuit 1
B21 Flow temperature sensor heat pump
B3 Domestic hot water temperature sensor
B31 DHW temperature sensor bottom (option)
B4 Buffer storage temperature sensor
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor
BX21 Flow temp. sensor heating circuit 2
E15 Brine pressure controller
EG Expansion vessel
K6 Electrical heating element DHW
KW Cold water
N11 Heat pump controller
PI Pressure gauge
Q2 Heating circuit pump 1
Q3 Deflector valve DHW
Q8 Brine pump
Q9 Condenser pump
QX21 Heating circuit mixer 2
QX23 Heating circuit pump 2
RSV Non-return valve
SAM Dirt separator with magnet
SD power socket 230V (external)
SRV Balancing valve
ST Safety thermostat
SV Safety valve
TWW Domestic hot water
Y1 Heating circuit mixer 1

				DATE	06 / 2021
				DESIGNER	FUP
				Proved	DG
RESPONSIBLE	CHANGE	DATE	DESIGNER	Standard	SIA 410

OH_Duo_02.30.10_E45_E2

Subject to technical changes.

- Installation of additional components as per local regulations and conditions.
- This presentation is used as planning aid for the concerned installer.

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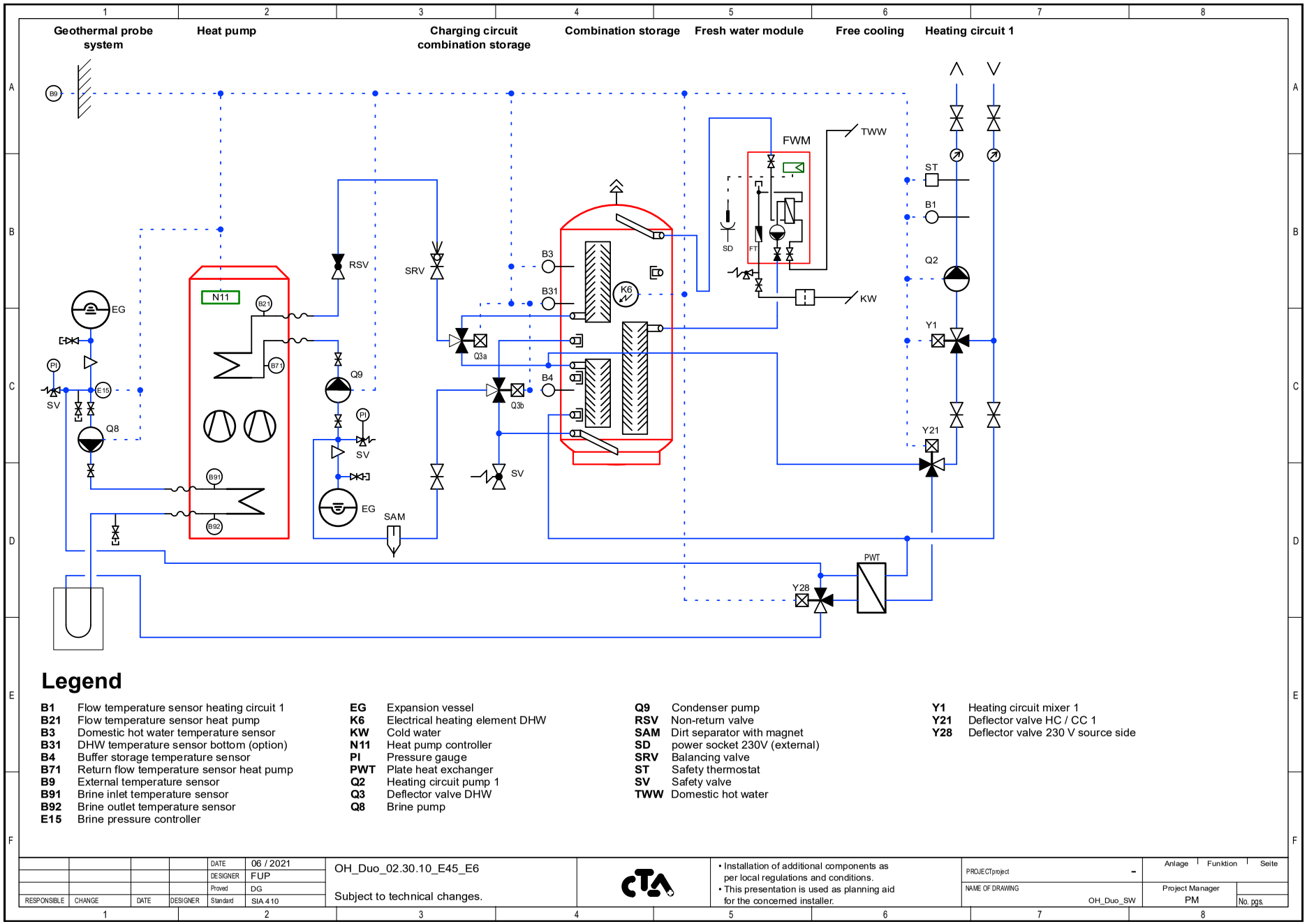

Legend

B1 Flow temperature sensor heating circuit 1
B21 Flow temperature sensor heat pump
B3 Domestic hot water temperature sensor
B31 DHW temperature sensor bottom (option)
B4 Buffer storage temperature sensor
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor
E15 Brine pressure controller

EG Expansion vessel
K6 Electrical heating element DHW
KW Cold water
N11 Heat pump controller
PI Pressure gauge
PWT Plate heat exchanger
Q2 Heating circuit pump 1
Q3 Deflector valve DHW
Q8 Brine pump

Q9 Condenser pump
RSV Non-return valve
SAM Dirt separator with magnet
SD power socket 230V (external)
SRV Balancing valve
ST Safety thermostat
SV Safety valve
TWW Domestic hot water

Y1 Heating circuit mixer 1
Y21 Deflector valve HC / CC 1
Y28 Deflector valve 230 V source side

				DATE	06 / 2021
				DESIGNER	FUP
				Proved	DG
RESPONSIBLE	CHANGE	DATE	DESIGNER	Standard	SIA 410

OH_Duo_02.30.10_E45_E6

Subject to technical changes.

- Installation of additional components as per local regulations and conditions.
- This presentation is used as planning aid for the concerned installer.

PROJECTproject	-	Anlage / Funktion / Seite	
NAME OF DRAWING	OH_Duo_SW	Project Manager	PM
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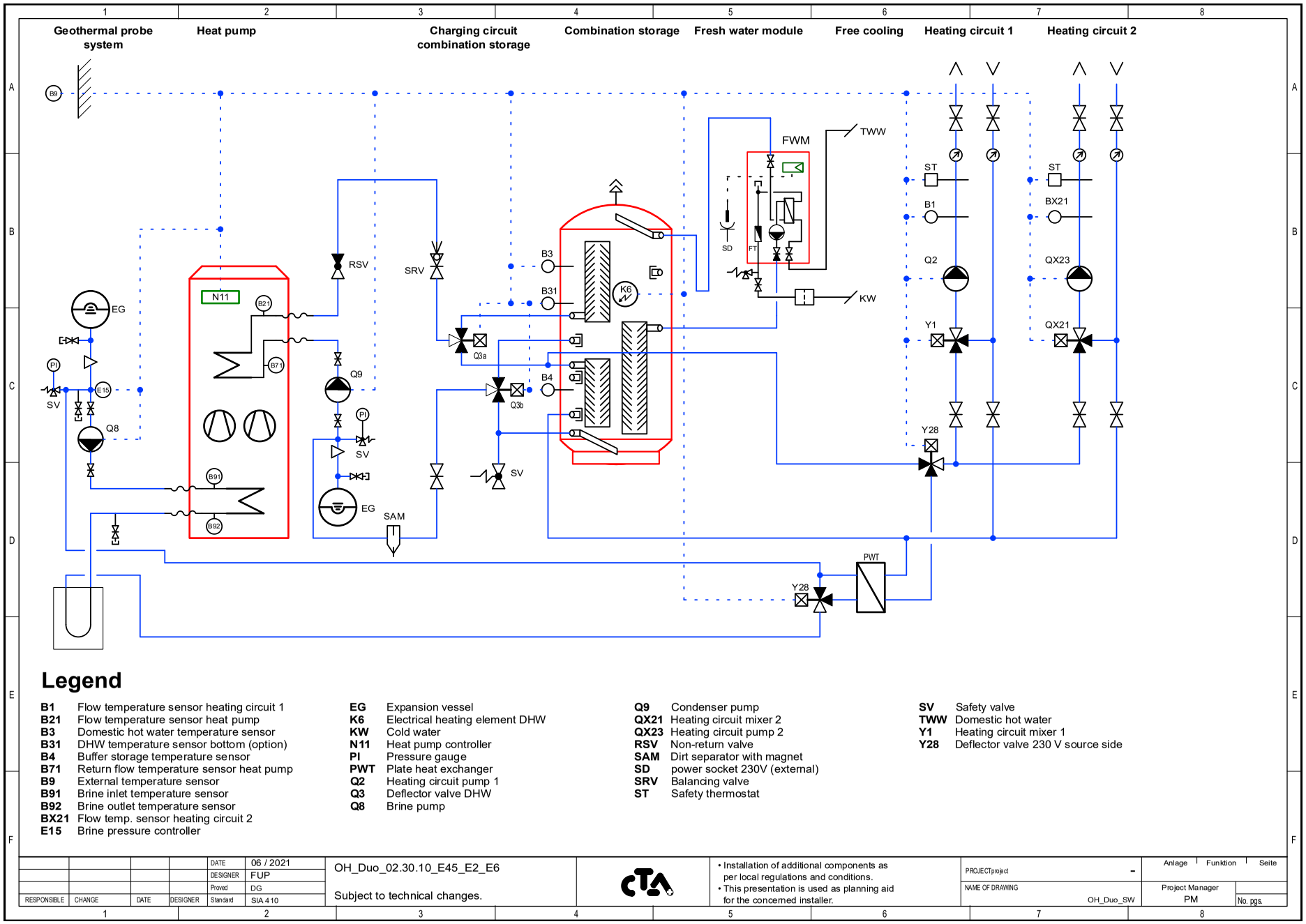


Legend

B1 Flow temperature sensor heating circuit 1
B21 Flow temperature sensor heat pump
B3 Domestic hot water temperature sensor
B31 DHW temperature sensor bottom (option)
B4 Buffer storage temperature sensor
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor
BX21 Flow temp. sensor heating circuit 2
E15 Brine pressure controller

EG Expansion vessel
K6 Electrical heating element DHW
KW Cold water
N11 Heat pump controller
PI Pressure gauge
PWT Plate heat exchanger
Q2 Heating circuit pump 1
Q3 Deflector valve DHW
Q8 Brine pump

Q9 Condenser pump
QX21 Heating circuit mixer 2
QX23 Heating circuit pump 2
RSV Non-return valve
SAM Dirt separator with magnet
SD power socket 230V (external)
SRV Balancing valve
ST Safety thermostat

SV Safety valve
TWW Domestic hot water
Y1 Heating circuit mixer 1
Y28 Deflector valve 230 V source side

				DATE	06 / 2021
				DESIGNER	FUP
				Proved	DG
RESPONSIBLE	CHANGE	DATE	DESIGNER	Standard	SIA 410

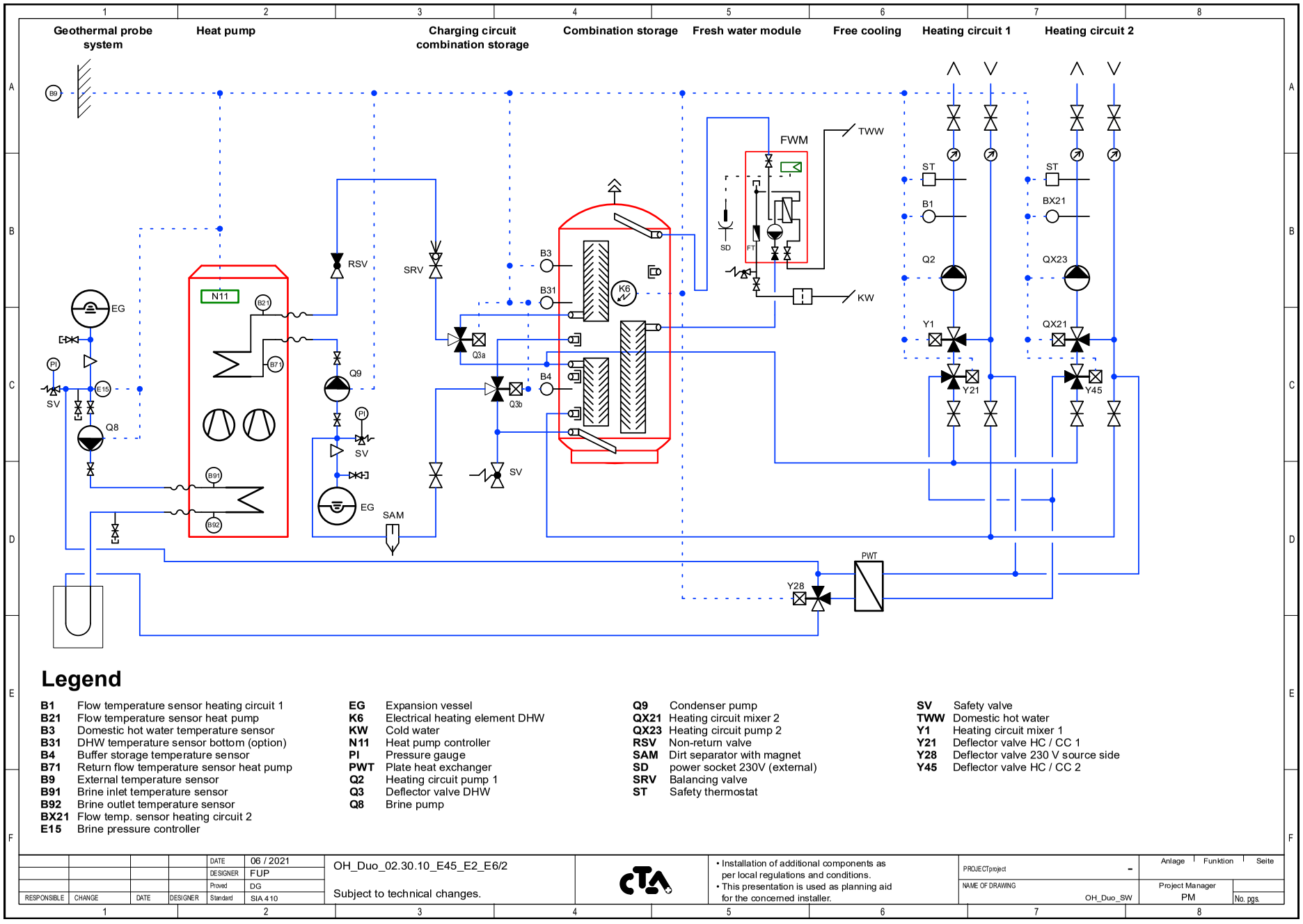
OH_Duo_02.30.10_E45_E2_E6

Subject to technical changes.

- Installation of additional components as per local regulations and conditions.
- This presentation is used as planning aid for the concerned installer.

PROJECTproject -
NAME OF DRAWING OH_Duo_SW

Anlage	Funktion	Seite
Project Manager PM		No. pgs.



Legend

B1 Flow temperature sensor heating circuit 1
B21 Flow temperature sensor heat pump
B3 Domestic hot water temperature sensor
B31 DHW temperature sensor bottom (option)
B4 Buffer storage temperature sensor
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor
BX21 Flow temp. sensor heating circuit 2
E15 Brine pressure controller

EG Expansion vessel
K6 Electrical heating element DHW
KW Cold water
N11 Heat pump controller
PI Pressure gauge
PWT Plate heat exchanger
Q2 Heating circuit pump 1
Q3 Deflector valve DHW
Q8 Brine pump

Q9 Condenser pump
QX21 Heating circuit mixer 2
QX23 Heating circuit pump 2
RSV Non-return valve
SAM Dirt separator with magnet
SD power socket 230V (external)
SRV Balancing valve
ST Safety thermostat

SV Safety valve
TWW Domestic hot water
Y1 Heating circuit mixer 1
Y21 Deflector valve HC / CC 1
Y28 Deflector valve 230 V source side
Y45 Deflector valve HC / CC 2

				DATE	06 / 2021
				DESIGNER	FUP
				Proved	DG
RESPONSIBLE	CHANGE	DATE	DESIGNER	Standard	SIA 410

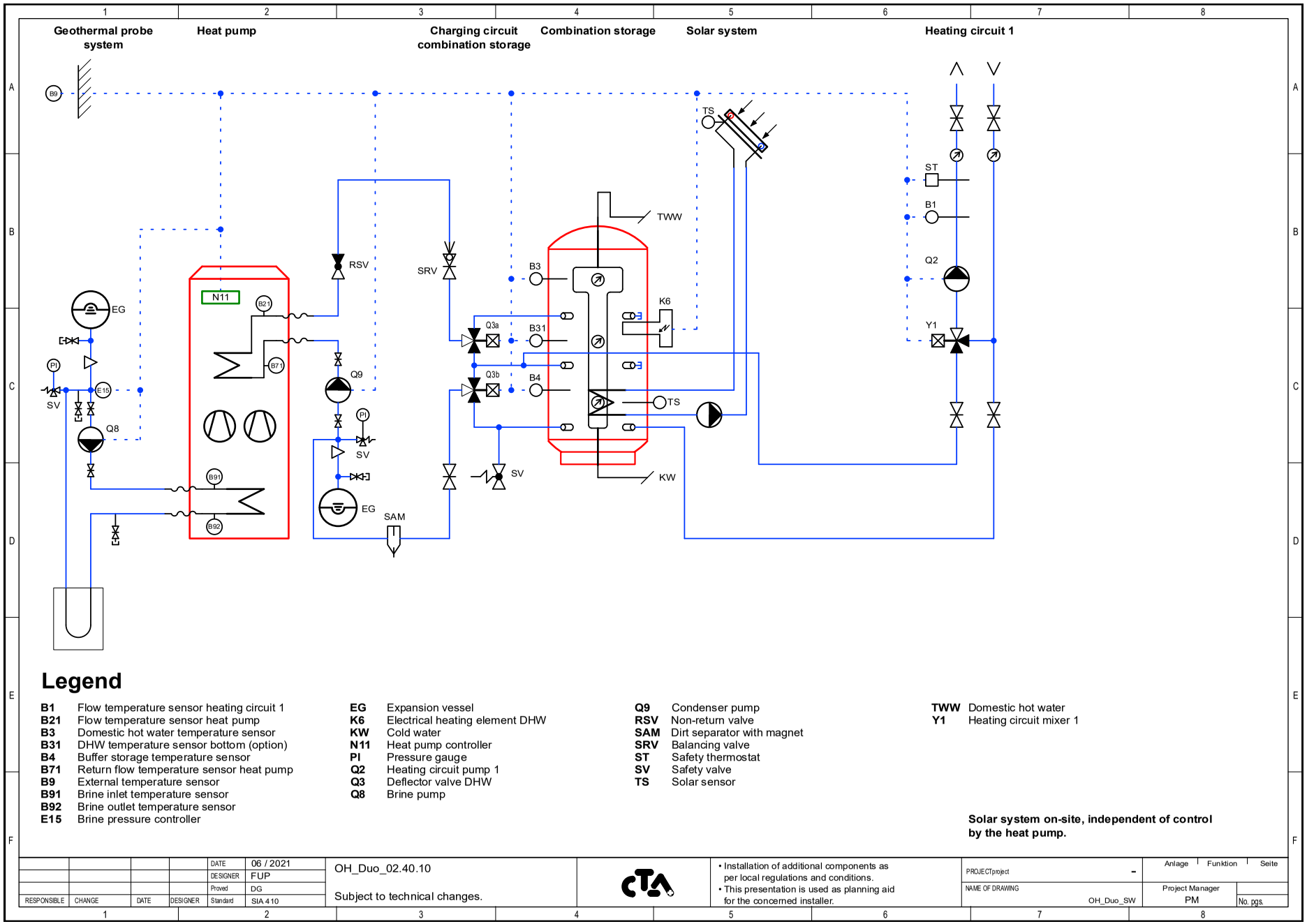
OH_Duo_02.30.10_E45_E2_E6/2

Subject to technical changes.

- Installation of additional components as per local regulations and conditions.
- This presentation is used as planning aid for the concerned installer.

PROJECTproject -
NAME OF DRAWING OH_Duo_SW

Anlage	Funktion	Seite
Project Manager PM		No. pgs.



Legend

B1 Flow temperature sensor heating circuit 1
B21 Flow temperature sensor heat pump
B3 Domestic hot water temperature sensor
B31 DHW temperature sensor bottom (option)
B4 Buffer storage temperature sensor
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor
E15 Brine pressure controller

EG Expansion vessel
K6 Electrical heating element DHW
KW Cold water
N11 Heat pump controller
PI Pressure gauge
Q2 Heating circuit pump 1
Q3 Deflector valve DHW
Q8 Brine pump

Q9 Condenser pump
RSV Non-return valve
SAM Dirt separator with magnet
SRV Balancing valve
ST Safety thermostat
SV Safety valve
TS Solar sensor

TWW Domestic hot water
Y1 Heating circuit mixer 1

Solar system on-site, independent of control by the heat pump.

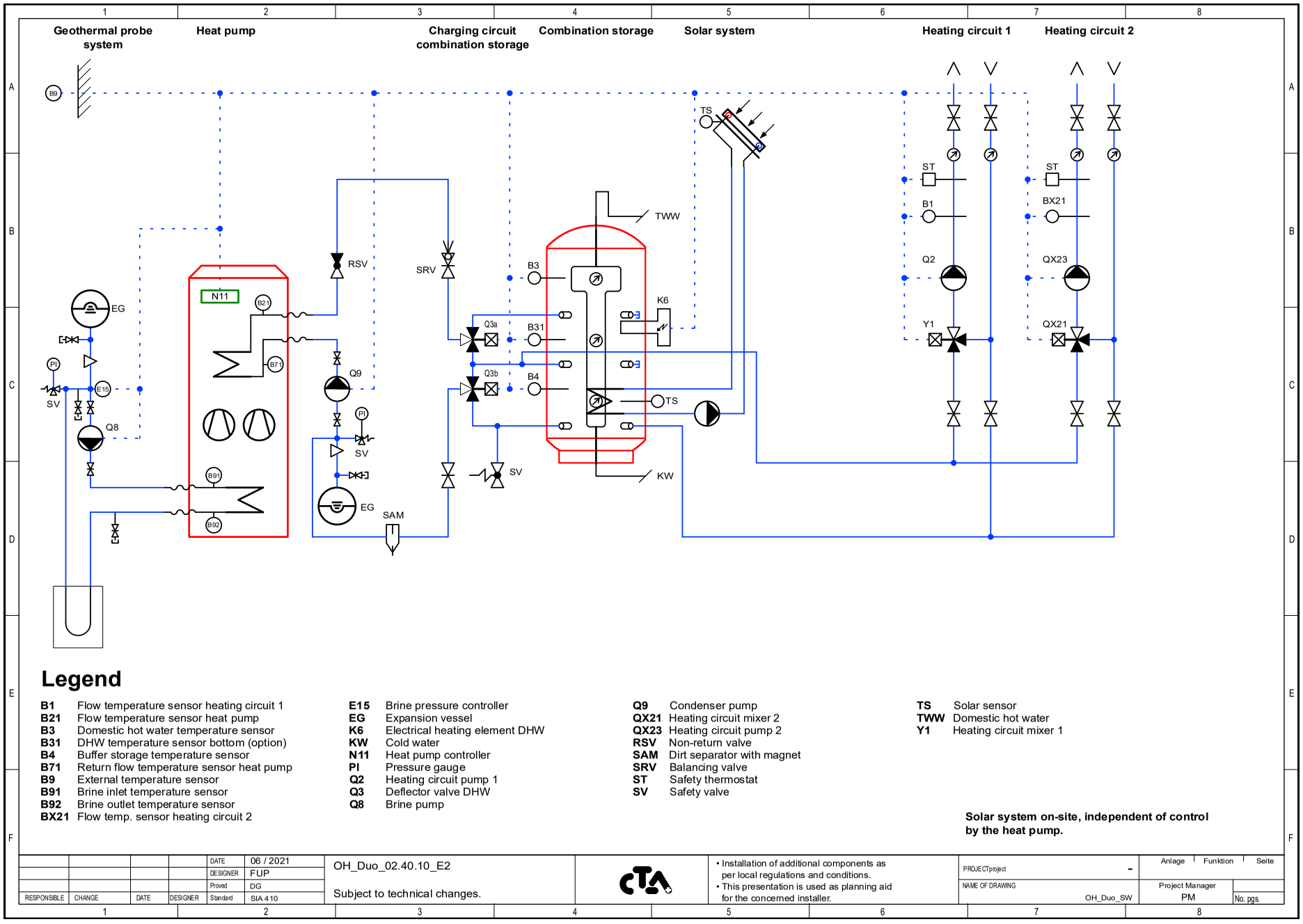
				DATE	06 / 2021
				DESIGNER	FUP
				Proved	DG
RESPONSIBLE	CHANGE	DATE	DESIGNER	Standard	SIA 410

OH_Duo_02.40.10

Subject to technical changes.

- Installation of additional components as per local regulations and conditions.
- This presentation is used as planning aid for the concerned installer.

PROJECTproject	-	Anlage / Funktion / Seite	
NAME OF DRAWING	OH_Duo_SW	Project Manager	PM
		No. pgs.	



Legend

B1 Flow temperature sensor heating circuit 1
B21 Flow temperature sensor heat pump
B3 Domestic hot water temperature sensor
B31 DHW temperature sensor bottom (option)
B4 Buffer storage temperature sensor
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor
BX21 Flow temp. sensor heating circuit 2

E15 Brine pressure controller
EG Expansion vessel
K6 Electrical heating element DHW
KW Cold water
N11 Heat pump controller
PI Pressure gauge
Q2 Heating circuit pump 1
Q3 Deflector valve DHW
Q8 Brine pump

Q9 Condenser pump
QX21 Heating circuit mixer 2
QX23 Heating circuit pump 2
RSV Non-return valve
SAM Dirt separator with magnet
SRV Balancing valve
ST Safety thermostat
SV Safety valve

TS Solar sensor
TWW Domestic hot water
Y1 Heating circuit mixer 1

Solar system on-site, independent of control by the heat pump.

				DATE	06 / 2021
				DESIGNER	FUP
				Proved	DG
RESPONSIBLE	CHANGE	DATE	DESIGNER	Standard	SIA 410

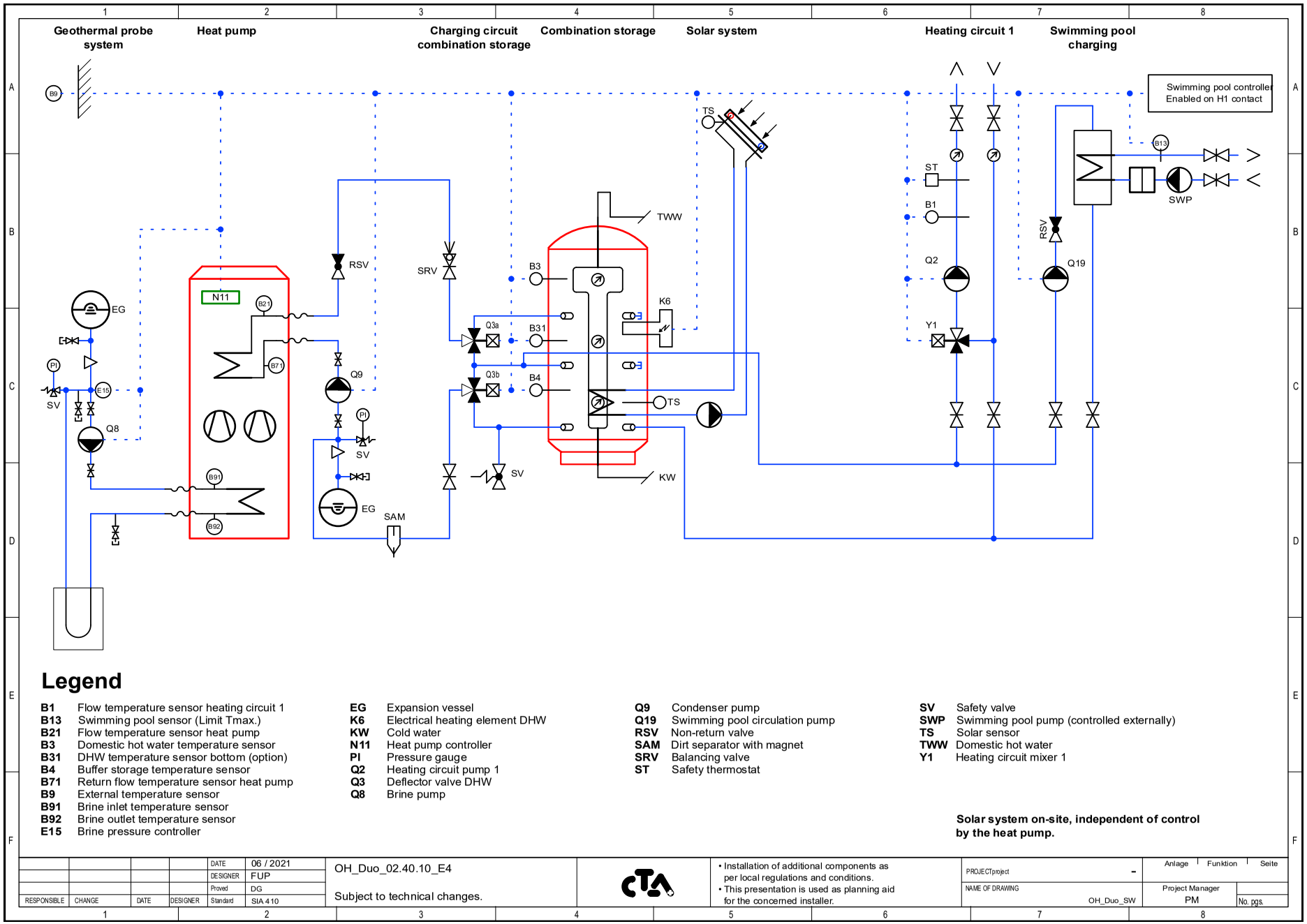
OH_Duo_02.40.10_E2

Subject to technical changes.

- Installation of additional components as per local regulations and conditions.
- This presentation is used as planning aid for the concerned installer.

PROJECTproject -
NAME OF DRAWING OH_Duo_SW

Anlage	Funktion	Seite
Project Manager PM		No. pgs.



Legend

B1 Flow temperature sensor heating circuit 1
B13 Swimming pool sensor (Limit Tmax.)
B21 Flow temperature sensor heat pump
B3 Domestic hot water temperature sensor
B31 DHW temperature sensor bottom (option)
B4 Buffer storage temperature sensor
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor
E15 Brine pressure controller

EG Expansion vessel
K6 Electrical heating element DHW
KW Cold water
N11 Heat pump controller
PI Pressure gauge
Q2 Heating circuit pump 1
Q3 Deflector valve DHW
Q8 Brine pump

Q9 Condenser pump
Q19 Swimming pool circulation pump
RSV Non-return valve
SAM Dirt separator with magnet
SRV Balancing valve
ST Safety thermostat

SV Safety valve
SWP Swimming pool pump (controlled externally)
TS Solar sensor
TWW Domestic hot water
Y1 Heating circuit mixer 1

Solar system on-site, independent of control by the heat pump.

				DATE	06 / 2021
				DESIGNER	FUP
				Proved	DG
RESPONSIBLE	CHANGE	DATE	DESIGNER	Standard	SIA 410

OH_Duo_02.40.10_E4

Subject to technical changes.

- Installation of additional components as per local regulations and conditions.
- This presentation is used as planning aid for the concerned installer.

PROJECTproject	-	Anlage	Funktion / Seite
NAME OF DRAWING	OH_Duo_SW	Project Manager	PM
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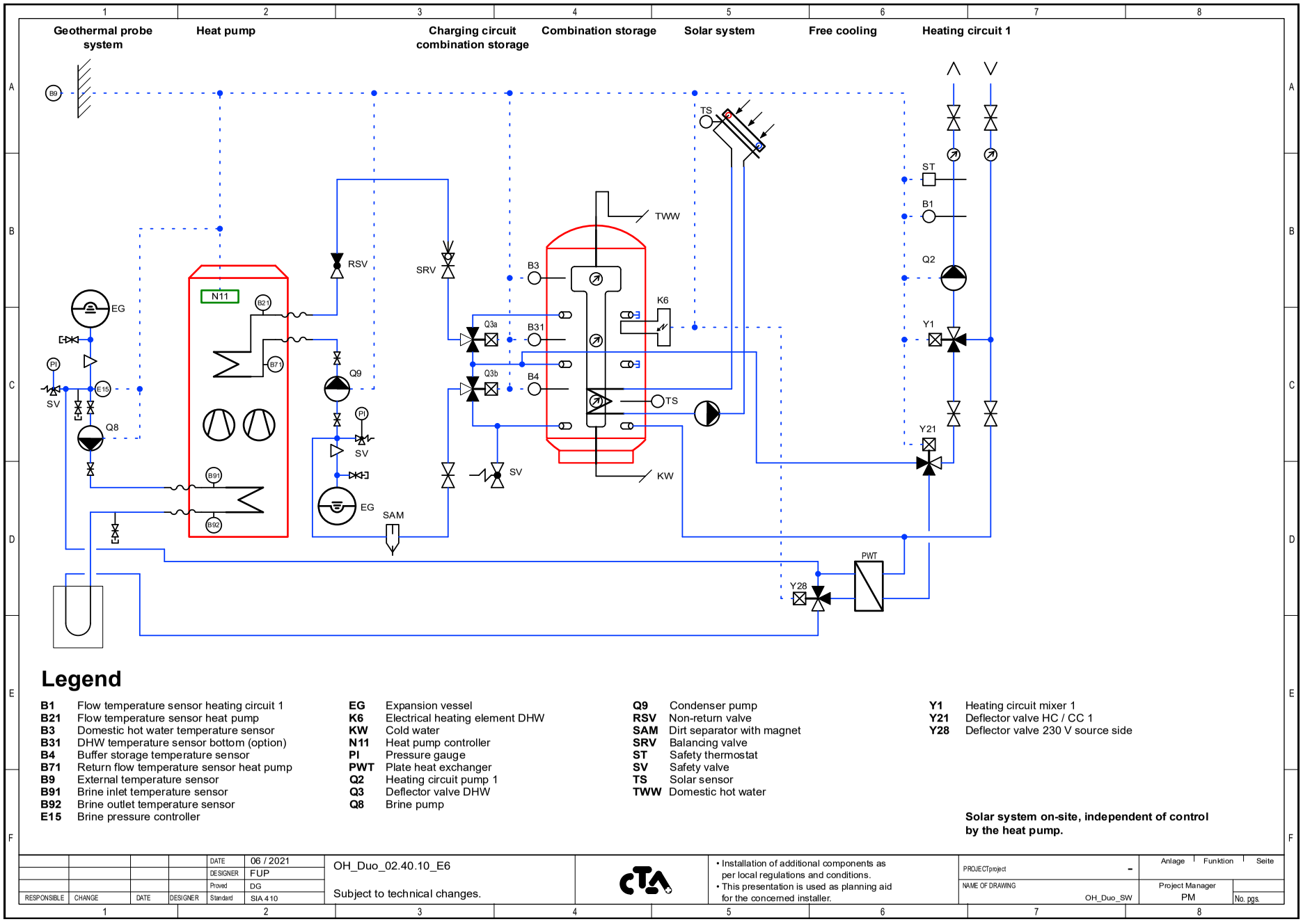

Legend

B1	Flow temperature sensor heating circuit 1
B21	Flow temperature sensor heat pump
B3	Domestic hot water temperature sensor
B31	DHW temperature sensor bottom (option)
B4	Buffer storage temperature sensor
B71	Return flow temperature sensor heat pump
B9	External temperature sensor
B91	Brine inlet temperature sensor
B92	Brine outlet temperature sensor
E15	Brine pressure controller
EG	Expansion vessel
K6	Electrical heating element DHW
KW	Cold water
N11	Heat pump controller
PI	Pressure gauge
PWT	Plate heat exchanger
Q2	Heating circuit pump 1
Q3	Deflector valve DHW
Q8	Brine pump
Q9	Condenser pump
RSV	Non-return valve
SAM	Dirt separator with magnet
SRV	Balancing valve
ST	Safety thermostat
SV	Safety valve
TS	Solar sensor
TWW	Domestic hot water
Y1	Heating circuit mixer 1
Y21	Deflector valve HC / CC 1
Y28	Deflector valve 230 V source side

Solar system on-site, independent of control by the heat pump.

				DATE	06 / 2021
				DESIGNER	FUP
				Proved	DG
RESPONSIBLE	CHANGE	DATE	DESIGNER	Standard	SIA 410

OH_Duo_02.40.10_E6

Subject to technical changes.

- Installation of additional components as per local regulations and conditions.
- This presentation is used as planning aid for the concerned installer.

PROJECTproject	-	Anlage / Funktion / Seite	
NAME OF DRAWING	OH_Duo_SW	Project Manager	PM
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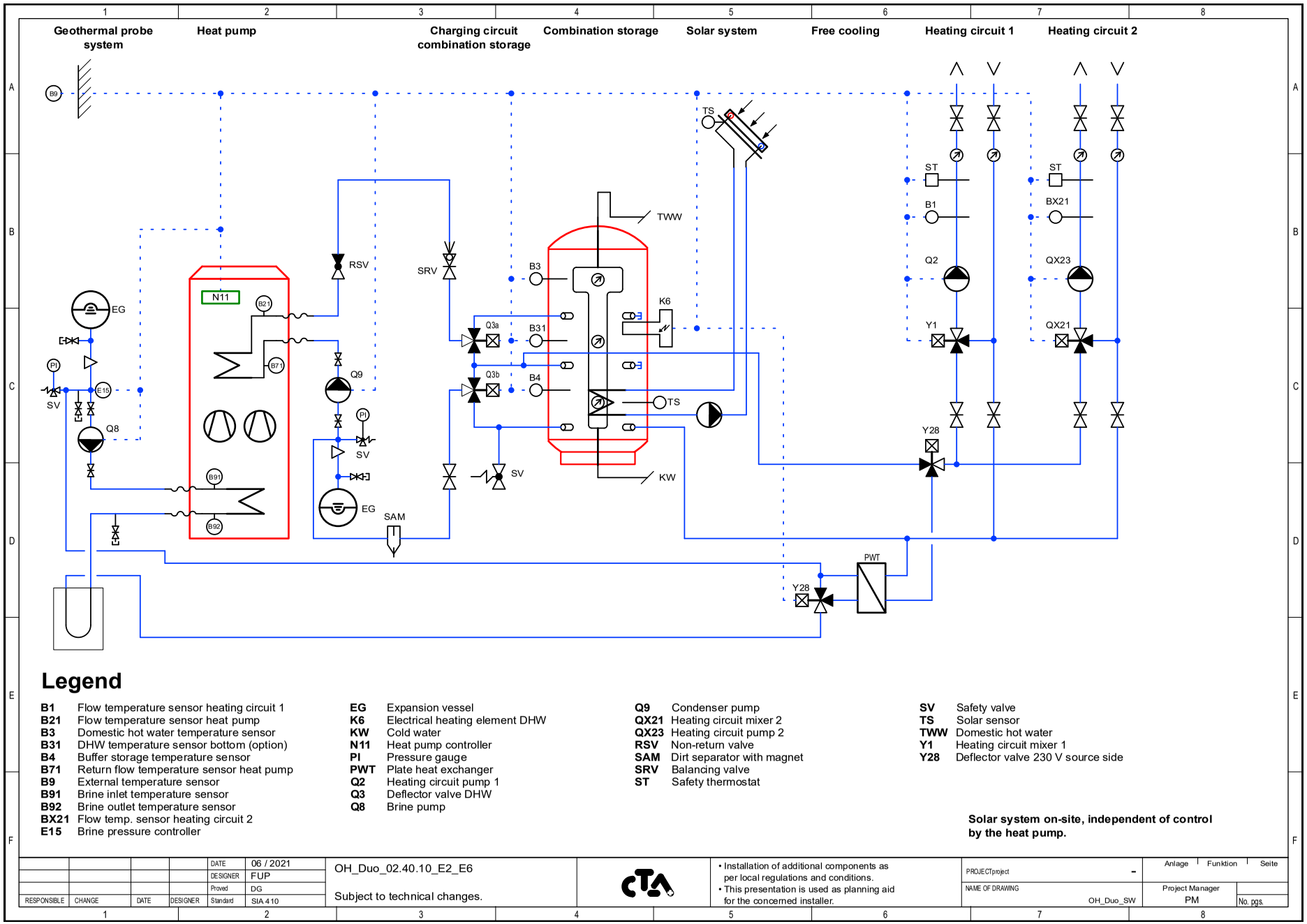


Legend

B1	Flow temperature sensor heating circuit 1
B21	Flow temperature sensor heat pump
B3	Domestic hot water temperature sensor
B31	DHW temperature sensor bottom (option)
B4	Buffer storage temperature sensor
B71	Return flow temperature sensor heat pump
B9	External temperature sensor
B91	Brine inlet temperature sensor
B92	Brine outlet temperature sensor
BX21	Flow temp. sensor heating circuit 2
E15	Brine pressure controller
EG	Expansion vessel
K6	Electrical heating element DHW
KW	Cold water
N11	Heat pump controller
PI	Pressure gauge
PWT	Plate heat exchanger
Q2	Heating circuit pump 1
Q3	Deflector valve DHW
Q8	Brine pump
Q9	Condenser pump
QX21	Heating circuit mixer 2
QX23	Heating circuit pump 2
RSV	Non-return valve
SAM	Dirt separator with magnet
SRV	Balancing valve
ST	Safety thermostat
SV	Safety valve
TS	Solar sensor
TWW	Domestic hot water
Y1	Heating circuit mixer 1
Y28	Deflector valve 230 V source side

Solar system on-site, independent of control by the heat pump.

				DATE	06 / 2021
				DESIGNER	FUP
				Proved	DG
RESPONSIBLE	CHANGE	DATE	DESIGNER	Standard	SIA 410

OH_Duo_02.40.10_E2_E6

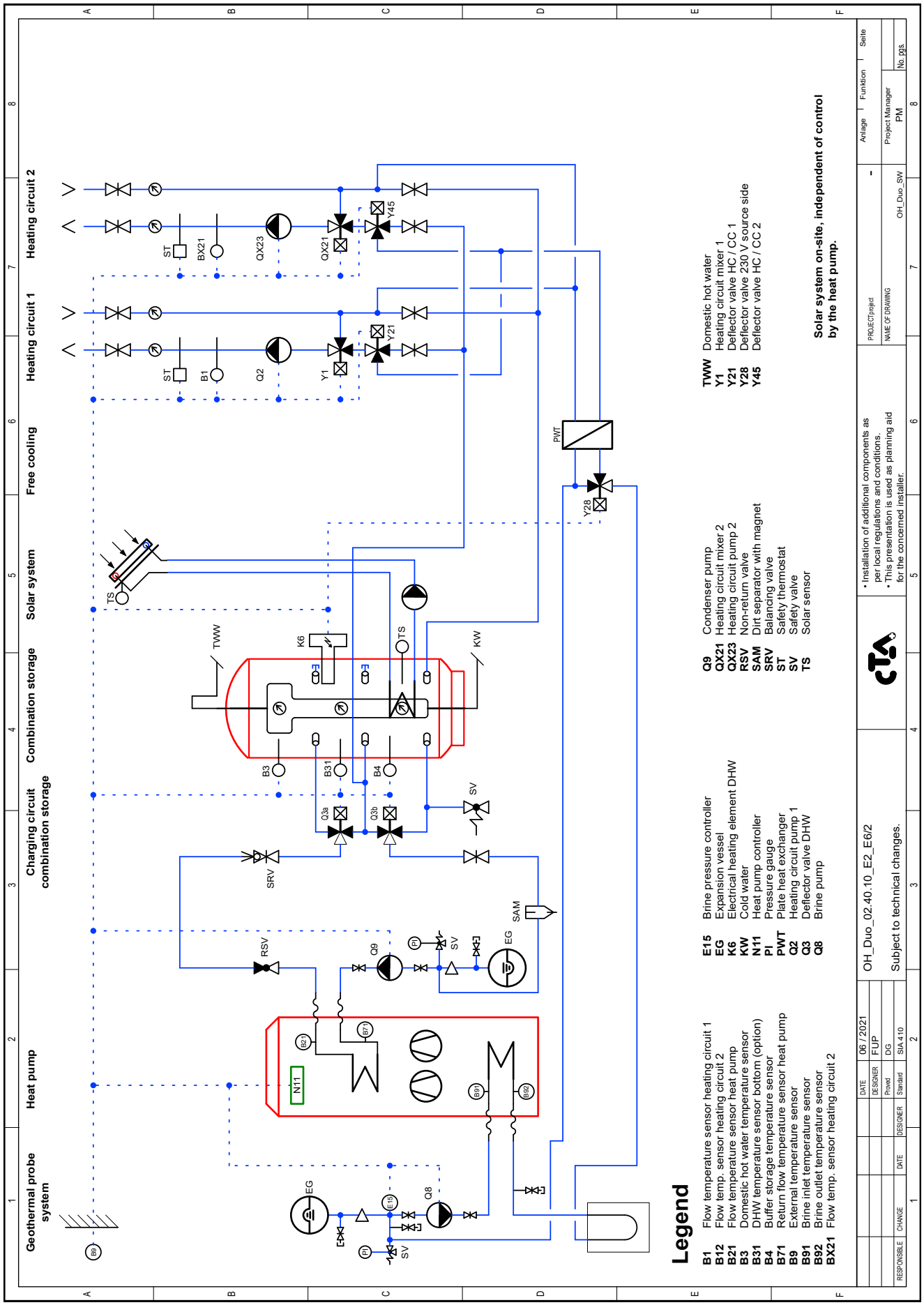
Subject to technical changes.

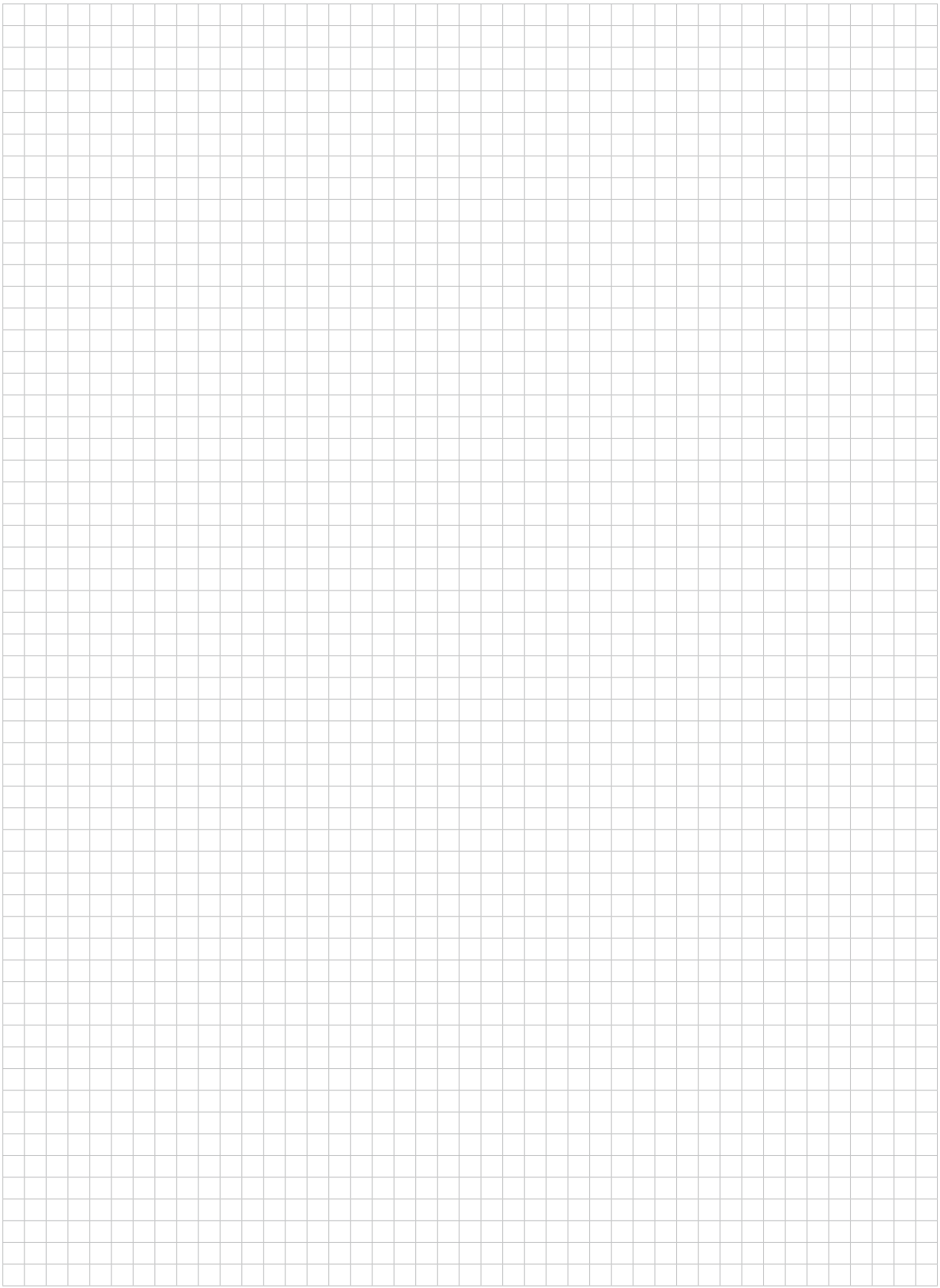
- Installation of additional components as per local regulations and conditions.
- This presentation is used as planning aid for the concerned installer.

PROJECTproject -

NAME OF DRAWING OH_Duo_SW

Anlage	Funktion	Seite
Project Manager PM		No. pgs.


Geothermal probe system
Heat pump
Charging circuit combination storage
Combination storage
Solar system
Free cooling
Heating circuit 1
Heating circuit 2
Legend
B1 Flow temperature sensor heating circuit 1
B12 Flow temp. sensor heating circuit 2
B21 Flow temperature sensor heat pump
B3 Domestic hot water temperature sensor
B31 DHW temperature sensor bottom (option)
B4 Buffer storage temperature sensor
B71 Return flow temperature sensor heat pump
B9 External temperature sensor
B91 Brine inlet temperature sensor
B92 Brine outlet temperature sensor
BX21 Flow temp. sensor heating circuit 2
E15 Brine pressure controller
EG Expansion vessel
K6 Electrical heating element DHW
KW Cold water
N11 Heat pump controller
PI Pressure gauge
PWT Plate heat exchanger
Q2 Heating circuit pump 1
Q3 Deflector valve DHW
Q8 Brine pump
Q9 Condenser pump
QX21 Heating circuit mixer 2
QX23 Heating circuit pump 2
RSV Non-return valve
SAM Dirt separator with magnet
SRV Balancing valve
ST Safety thermostat
SV Safety valve
TS Solar sensor
TWW Domestic hot water
Y1 Heating circuit mixer 1
Y21 Deflector valve HC / CC 1
Y28 Deflector valve 230 V source side
Y45 Deflector valve HC / CC 2
Solar system on-site, independent of control by the heat pump.
• Installation of additional components as per local regulations and conditions.
• This presentation is used as planning aid for the concerned installer.
OH_Duo_02.40.10_E2_E6/2
Subject to technical changes.
OH_Duo_SW
Project Manager PM



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8/2023 Item no. TD32004, version 2