

Water/Water Optiheat Inverta Economy

OH I 9e to OHI 17e



Table of contents

Technical data	4
OH I 9e to OH I 17e, water/water with controller Optiplus 3	4
OH I 9e to OH I 17e, water/water with controller Optiplus 3	5
Dimension drawings	6
OH I 9e to OH I 17e with controller Optiplus 3	6
OH I 9e water/water with controller Optiplus 3	7
OH I 17e water/water with controller Optiplus 3	9
Application limits	11
Heat output	12
OH I 9e water/water with controller Optiplus 3	12
OH I 17e water/water with controller Optiplus 3	13
Cooling output	14
OH I 9e water/water with controller Optiplus 3	14
OH I 17e water/water with controller Optiplus 3	15
Additional sheet ground water connection indirect (standard)	16
Function description	17
Basic concepts / extensions	18
04.00.10	18
04.00.10 E5	19
04.20.10	20
04.20.10 E42	21
04.20.10 E5	22
05.00.10	23
05.00.10 E8	24
04.20.10 E5 E42	25
05.00.10 E1	26
05.00.10 E1 E8	27
05.00.10 E2	28
05.00.10 E2 E8	29
05.00.10 E6	30
05.00.10 E6 E8	31
05.20.10	32
05.20.10 E8	33
05.20.10 E6	34
05.20.10 E6 E8	35
05.20.10 E1	36
05.20.10 E1 E8	37
05.20.10 E2	38
05.20.10 E2 E8	39
05.20.10 E2 E6	40
05.20.10 E2 E6 E8	41
05.20.10 E42	42
05.20.10 E42 E8	43
05.20.10 E6 E42	44
05.20.10 E6 E8 E42	45
05.20.10 E1 E42	46
05.20.10 E1 E8 E42	47
05.20.10 E2 E42	48
05.20.10 E2 E8 E42	49
05.20.10 E2 E6 E42	50
05.20.10 E2 E6 E8 E42	51
05.30.10	52
05.30.10 E8	53

Table of contents

05.30.10 E2	58
05.30.10 E2 E8	59
05.40.10	60
05.40.10 E6	61
05.40.10 E8	62
05.40.10 E1	63
05.40.10 E8	64
05.40.10 E2	65
05.40.10 E2 E8	66

Technical data

Optiheat Inverta Economy

1/2

OH I 9e to OH I 17e, water/water with controller Optiplus 3

Heat pump type			OH I 9e			OH I 17e		
Model			Economy			Economy		
Controller Optiplus			integrated			integrated		
WPZ-test number			WW-182-16-01					
Standard performance data (as per EN 14511:2013, part load oper. 50 Hz)			W 35	W 45	W 55	W 35	W 45	W 55
Heat output	at W10	kW	12.0	11.2	10.7	22.4	20.8	19.5
Power range	min./max.	kW	7.0 - 25.0	6.5 - 23.5	6.0 - 20.5	13 - 42	12 - 40	11 - 37
COP	at W10	-	6.5	4.8	3.8	6.5	4.8	3.6
El. power consumption	at W10	kW	1.8	2.4	2.8	3.4	4.4	5.4
Cooling output	at W10	kW	10.1	8.8	7.8	19.0	16.4	14.1
Standard performance data (as per EN 14511:2013, part load oper. 40 Hz)			W 35	W 45	W 55	W 35	W 45	W 55
Heat output	at W10	kW	9.6	9.1	8.5	18.3	17.0	15.8
COP	at W10	-	6.7	5.1	3.9	7.0	5.1	3.8
El. power consumption	at W10	kW	1.4	1.8	2.2	2.6	3.4	4.2
Cooling output	at W10	kW	8.1	7.3	6.3	15.6	13.6	11.6
Standard performance data (as per EN 14511:2013, part load oper. 60 Hz)			W 35	W 45	W 55	W 35	W 45	W 55
Heat output	at W10	kW	14.2	13.5	12.6	26.9	25.2	23.5
COP	at W10	-	6.2	4.7	3.7	6.3	4.8	3.6
El. power consumption	at W10	kW	2.3	2.8	3.4	4.3	5.3	6.5
Cooling output	at W10	kW	11.9	10.7	9.2	22.6	19.9	17.0
Performance data with intermediate circuit (heat source temperature inlet HP 7.5 °C)			W 35	W 45	W 55	W 35	W 45	W 55
Heat output	at W7.5	kW	11.1	10.6	9.9	20.9	19.6	18.4
COP	at W7.5	-	6.1	4.6	3.6	6.1	4.5	3.4
El. power consumption	at W7.5	kW	1.8	2.3	2.8	3.4	4.3	5.4
Energy class / Performance data (average climatic conditions)								
Energy efficiency class 35°C / 55°C			A+++/A+++			A+++/A+++		
Rated thermal output Prated 35°C / 55°C		kW	20.7/19.0			41.4/38.0		
Energy efficiency η_s 35°C / 55°C		%	285/197			283/197		
SCOP (according to EN 14825) 35°C / 55°C			7.31/5.14			7.27/5.12		
Sound								
Heat source temperature ²⁾	Lwa	dB(A)	48			54		
Sound pressure level in 1 m ³⁾	Lpa	dB(A)	33			39		
Field of application/application limits								
Heat source temperature	min./max.	°C	+6 / +20			+6 / +20		
Heat flow temperature ⁴⁾⁵⁾	min./max.	°C	+25 / +65			+25 / +65		
Vaporiser, source side (at W10/W35)			min.	nom.	max.	min.	nom.	max.
Volume flow minimum / nominal (ΔT 3K EN 14511) / maximum		m ³ /h	2.2	2.5	2.9	4.1	4.7	5.4
Pressure drop via heat pump		kPa	5	6	8	5	6	8
Medium water		%	100			100		
Condenser, heater side (at W10/W35)			min.	nom.	max.	min.	nom.	max.
Volume flow minimum / nominal (ΔT 5K EN 14511) / maximum		m ³ /h	1.0	1.5	2.1	1.9	2.8	3.9
Pressure drop via heat pump		kPa	2	4	8	2	4	8
Medium water		%	100			100		

1) Energy class for climate area medium / space heating low temperature application

2) As per EN9614-2 and EN12102

3) Sound pressure = free field value

4) Continuous operation +55°C; +60°C at source temperature < 0°C or > 15°C and reduced heat output

5) +65°C at maximum flow heating circuit and reduced heat output

Observe local conditions and regulations.

Technical data

Optiheat Inverta Economy

2/2

OH I 9e to OH I 17e, water/water with controller Optiplus 3

Condenser, heater side (at W10/W35)			min.	nom.	max.	min.	nom.	max.
Volume flow minimum / nominal (ΔT 5K EN 14511) / maximum		m ³ /h	1.0	1.5	2.1	1.9	2.8	3.9
Pressure drop via heat pump		kPa	2	4	8	2	4	8
Medium water		%	100			100		

Dimensions/connections/miscellaneous

Dimensions	D x W x H	mm	700 x 530 x 1260					
Total weight		kg	165			195		
Heating circuit connection	AG	Inch	1 1/2"					
Heat source connection	AG	Inch	1 1/2"					
Cooling agent / filling quantity		-- / kg	R-410A / 2.7			R-410A / 3.5		
GWP / CO ₂ e		-- / t	2090 / 5.6			2090 / 7.3		
Refrigeration oil filling quantity		l	0.9			0.9		

Electrical data

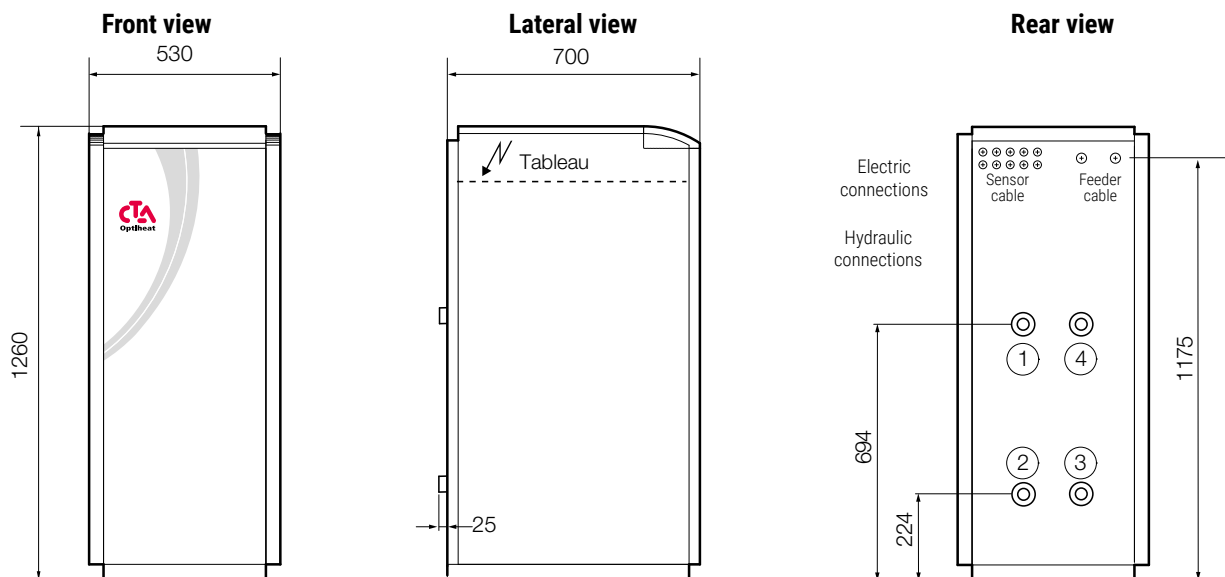
Operating voltage			3L / N / PE / 400 V / 50 Hz					
External fuse protection unit		AT	32 °C"			40 °C"		
External fuse protection without circulation pumps		AT	20 °C"			25 °C"		
Max. machine current		A	22			32		
Starting current (soft start speed control)		A	12			22		
Protection class		IP	20			20		
Max. power consumption compressor		kW	7.0			13.0		
Max. power consumption circulation pumps		kW	3.1			3.9		
Max. power consumption total		kW	10.1			16.9		
Heating pump outlets ⁶⁾			L / N / PE, 0-10V DC			L / N / PE, 0-10V DC		
Source pump outlets ⁶⁾			L / N / PE, 0-10V DC			L / N / PE, 0-10V DC		

6) Max. current consumption per pump 2 A

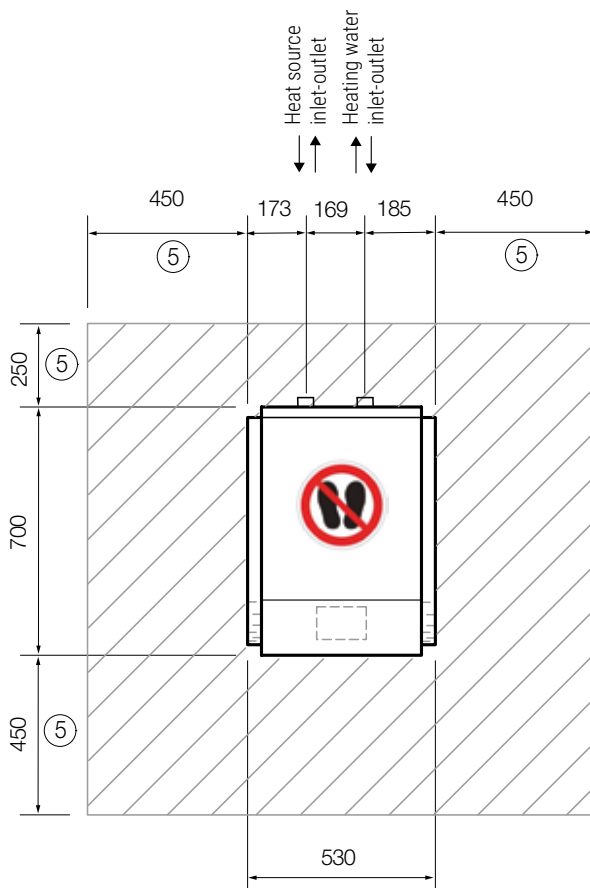
Observe local conditions and regulations.

Dimension drawings Optiheat Inverta Economy

OH I 9e to OH I 17e with controller Optiplus 3



Layout



Legend

- 1 Heating water outlet
- 2 Heating water inlet
- 3 Heat source outlet
- 4 Heat source inlet
- 5 Minimum distances

All dimensions are in mm

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

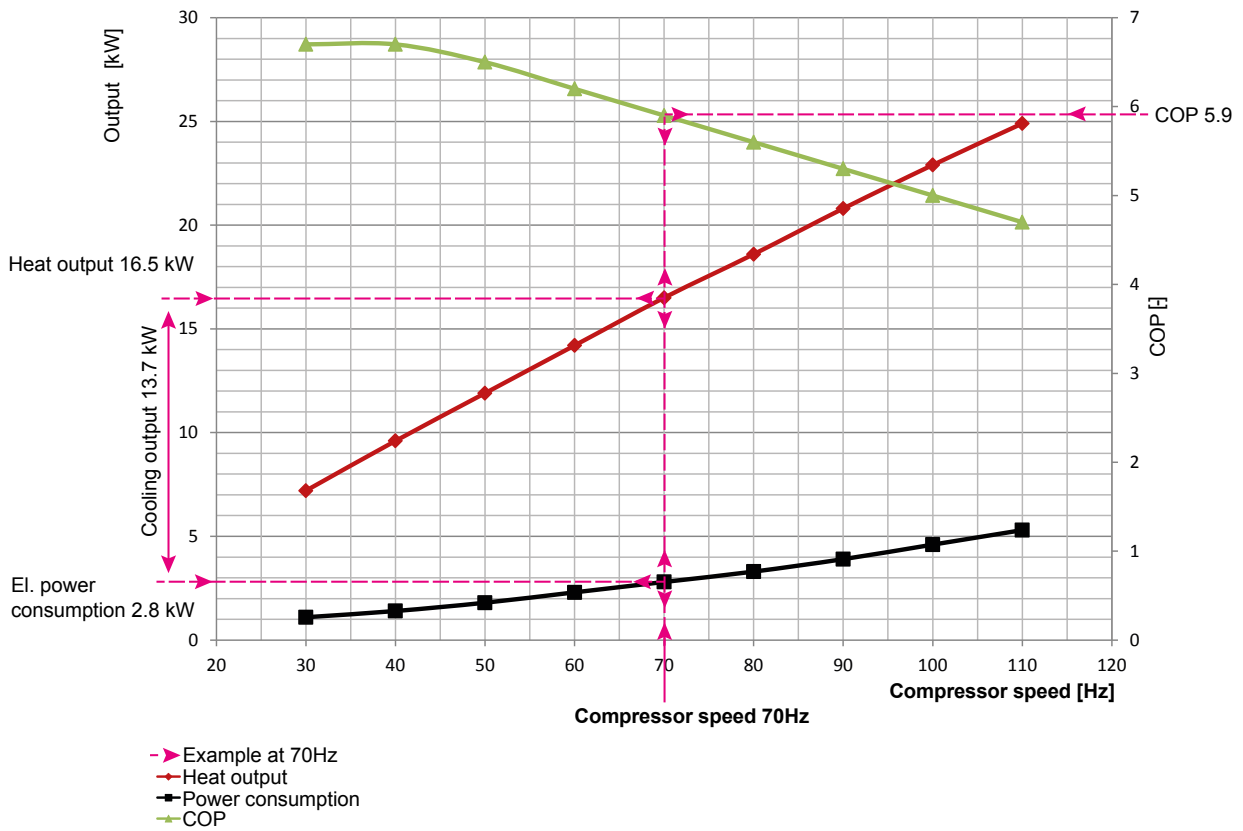
Power curves Optiheat Inverta Economy

OH I 9e water/water with controller Optiplus 3

Volume flow source minimum / nominal (ΔT 3K EN 14511) / maximum 2.2 / 2.5 / 2.9 m³/h
 Volume flow heater minimum / nominal (ΔT 5K EN 14511) / maximum 1.0 / 1.5 / 2.1 m³/h

Performance specifications as per EN 14511

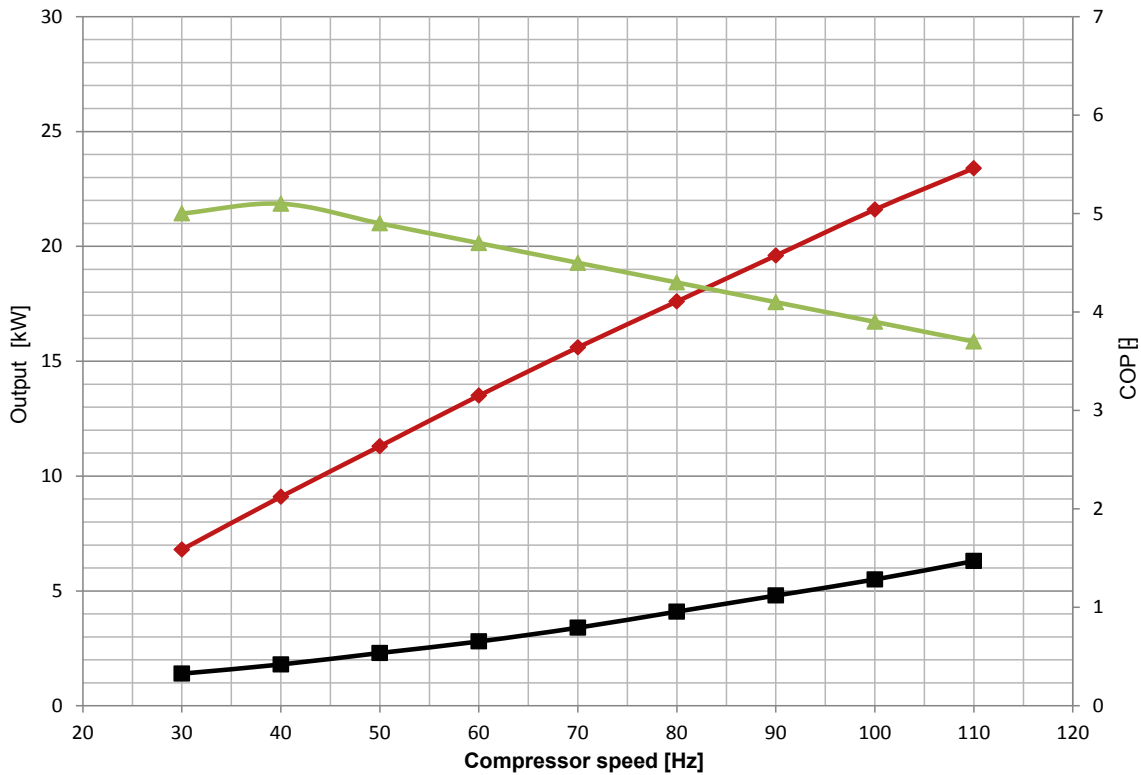
Heat output in kW at W10/W35



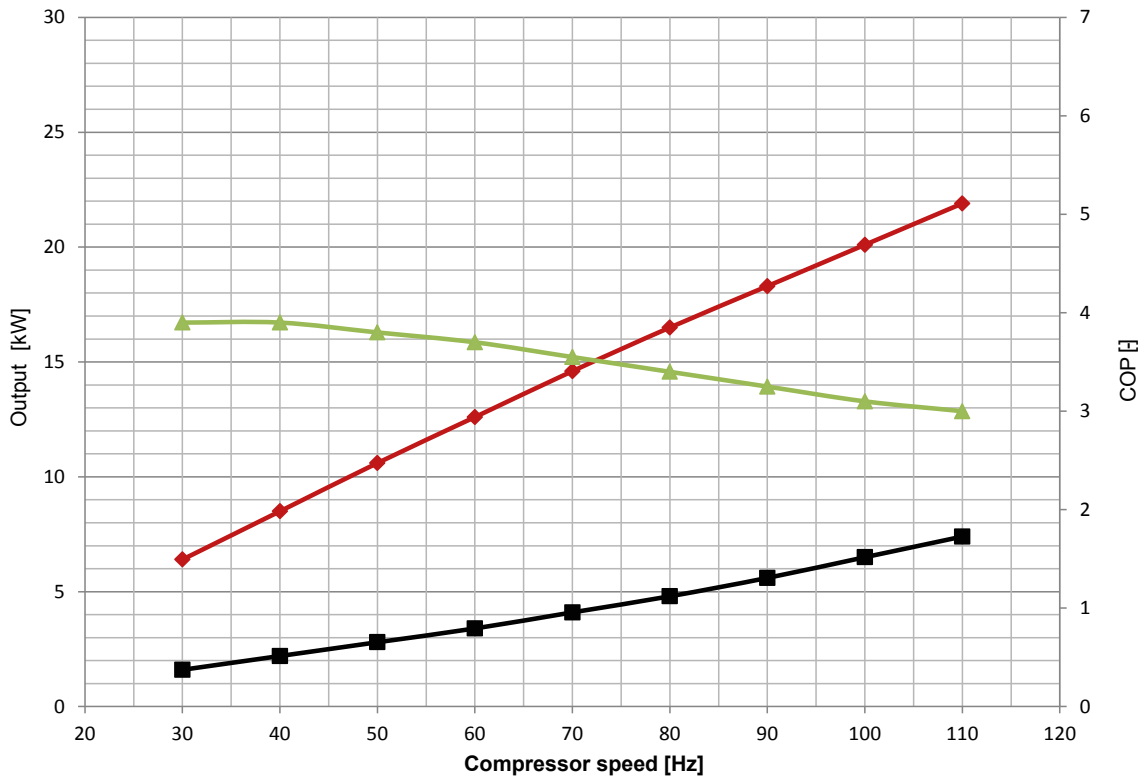
Power curves Optiheat Inverta Economy

OH I 9e water/water with controller Optiplus 3

Heat output in kW at W10/W45



Heat output in kW at W10/W55



- ◆ Heat output
- Power consumption
- ▲ COP

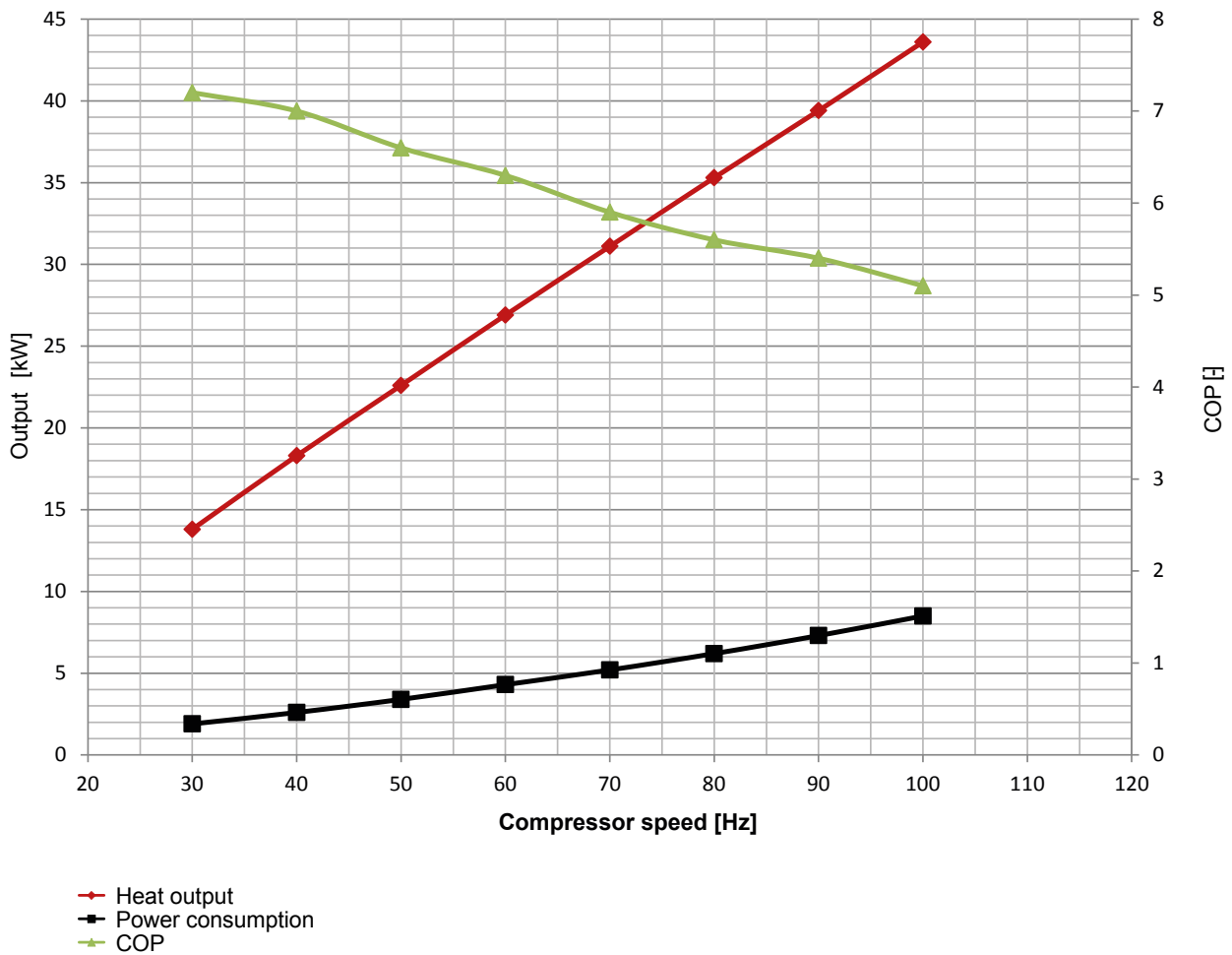
Power curves Optiheat Inverta Economy

OH I 17e water/water with controller Optiplus 3

Volume flow source minimum / nominal (ΔT 3K EN 14511) / maximum 1.2 / 5.4 / 10.1 m³/h
Volume flow heater minimum / nominal (ΔT 5K EN 14511) / maximum 2.5 / 3.9 / 7.5 m³/h

Performance specifications as per EN 14511

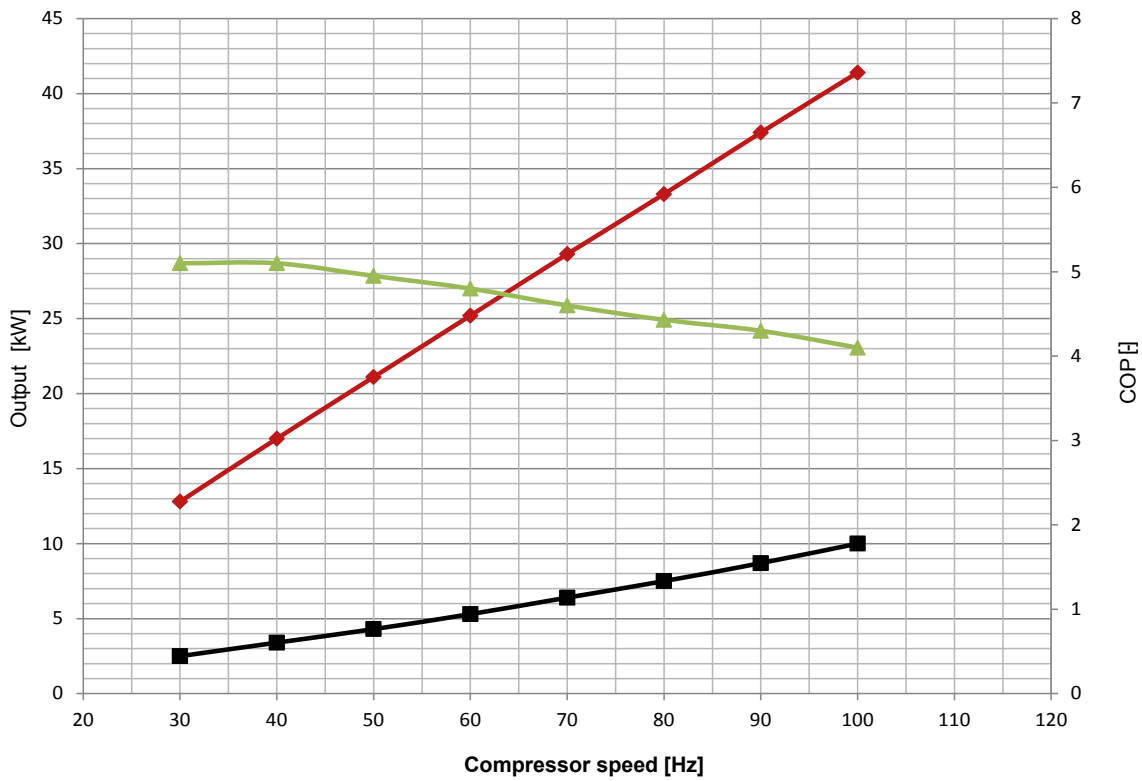
Heat output in kW at W10/W35



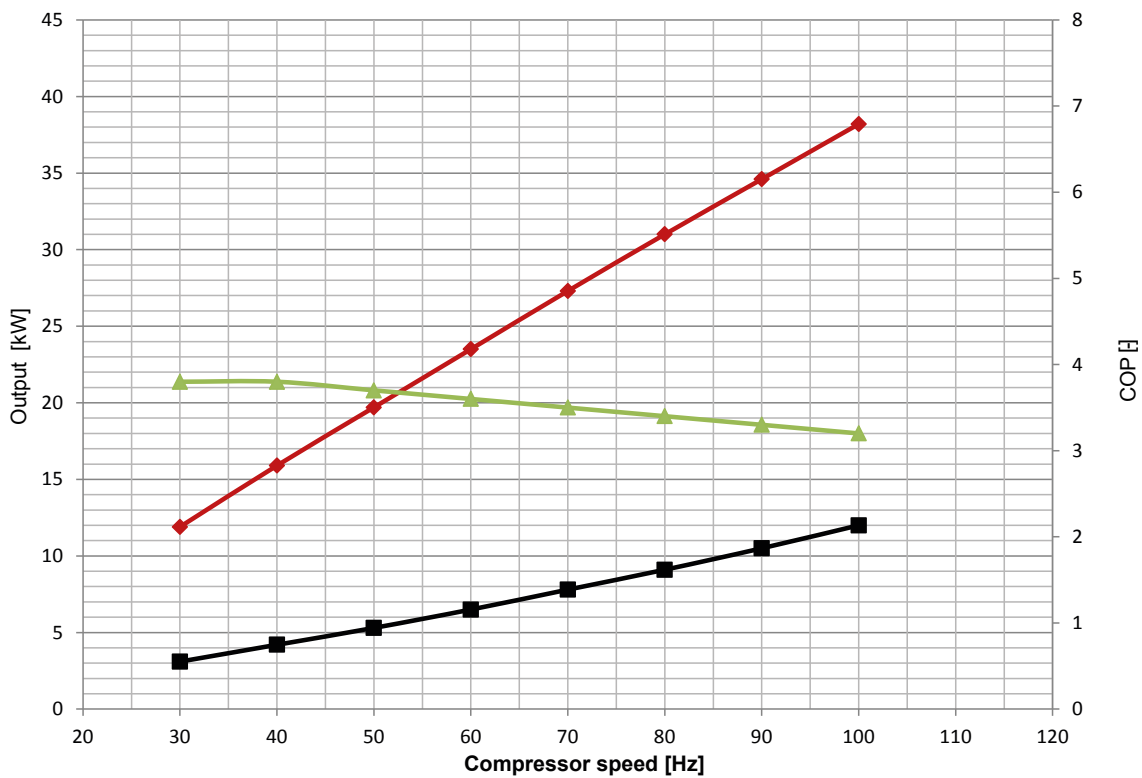
Power curves Optiheat Inverta Economy

OH I 17e water/water with controller Optiplus 3

Heat output in kW at W10/W45



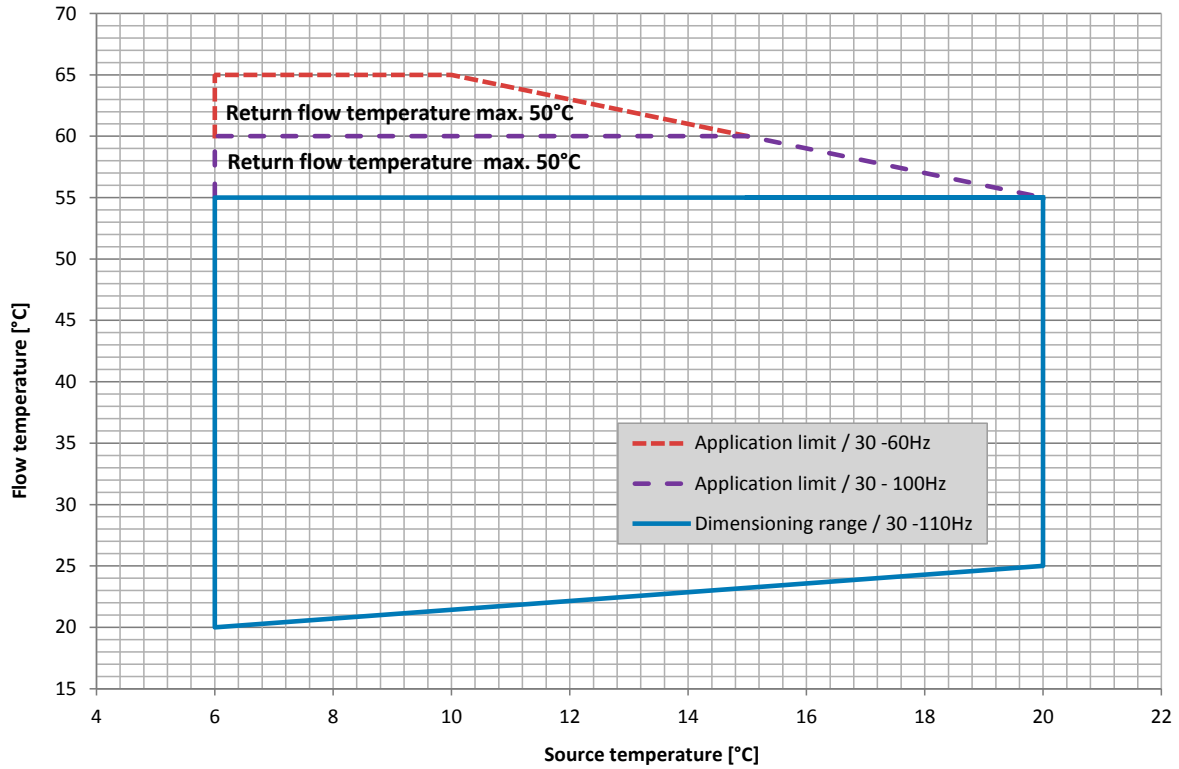
Heat output in kW at W10/W55



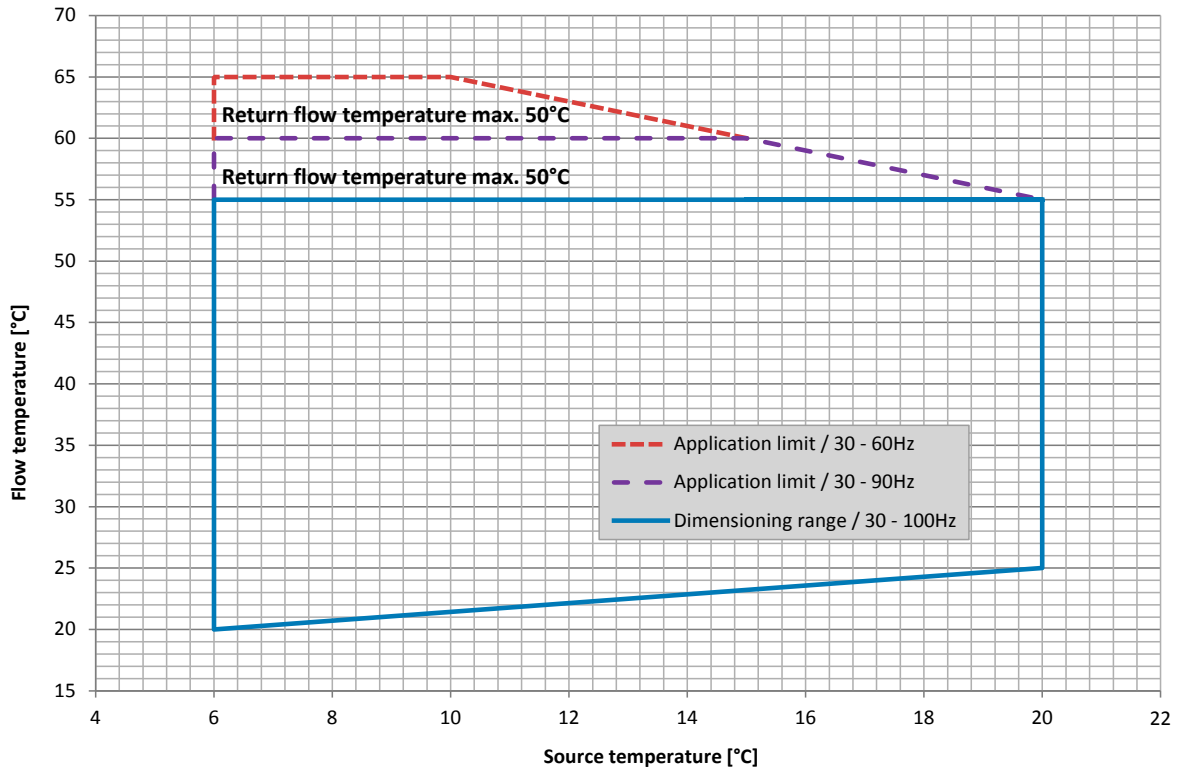
- ◆— Heat output
- Power consumption
- ▲— COP

Application limits Optiheat Inverta Economy

Application limits OHI 9e



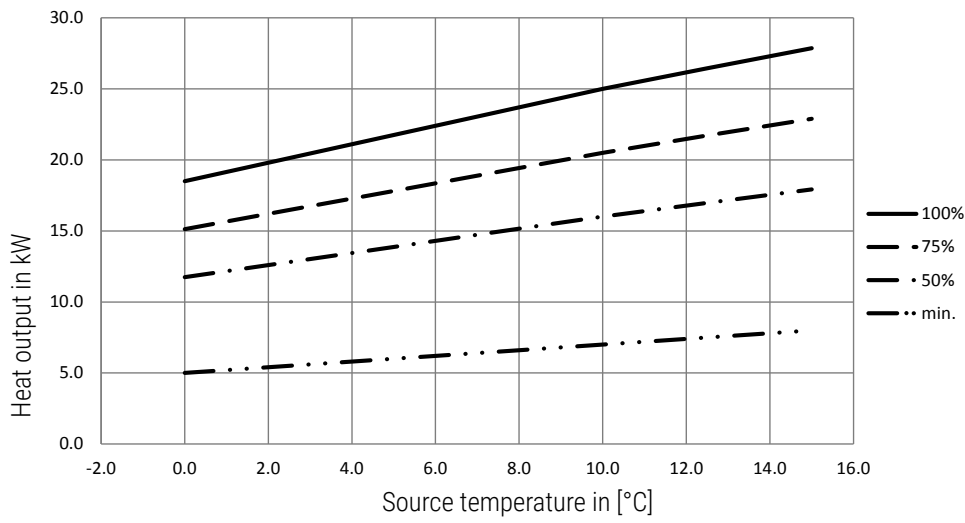
Application limits OHI 17e



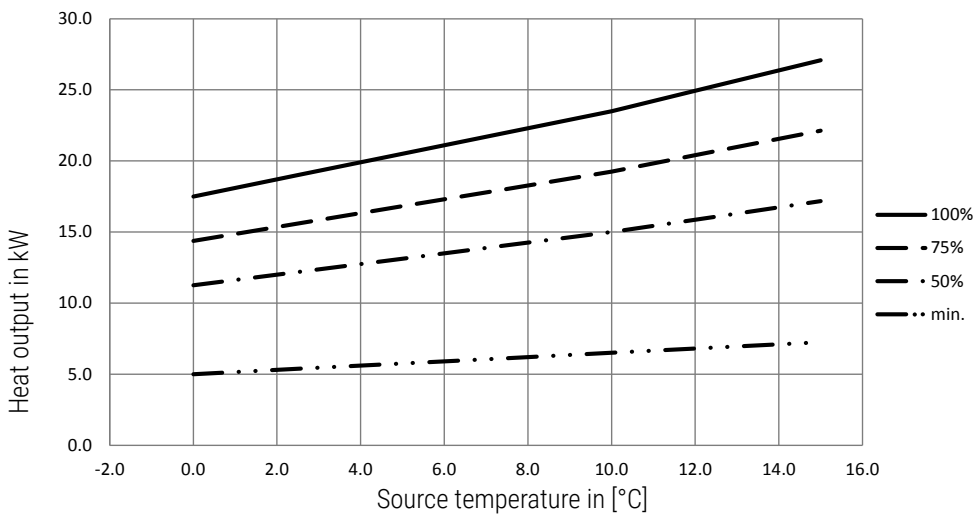
Heat output Optiheat Inverta Economy

OH I 9e water/water with controller Optiplus 3

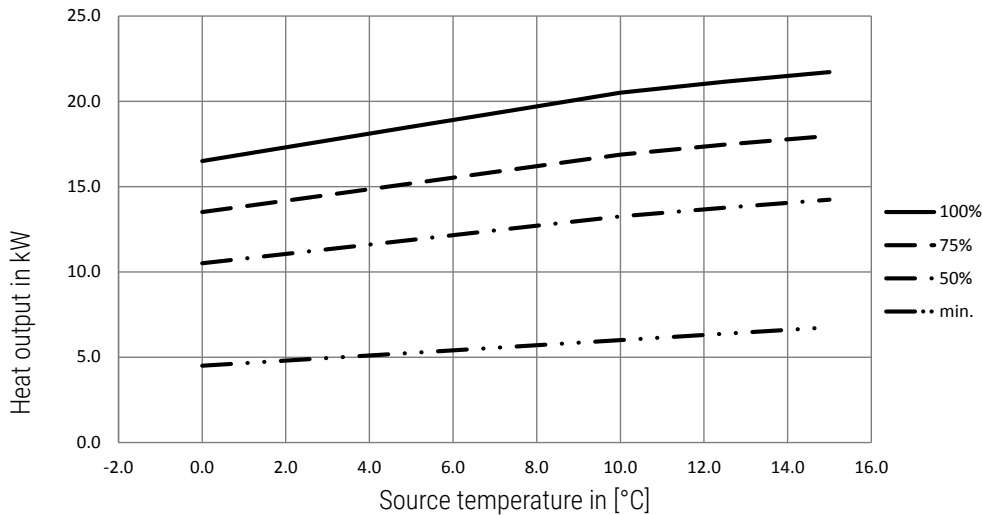
Heat output at flow temperature W35



Heat output at flow temperature W45



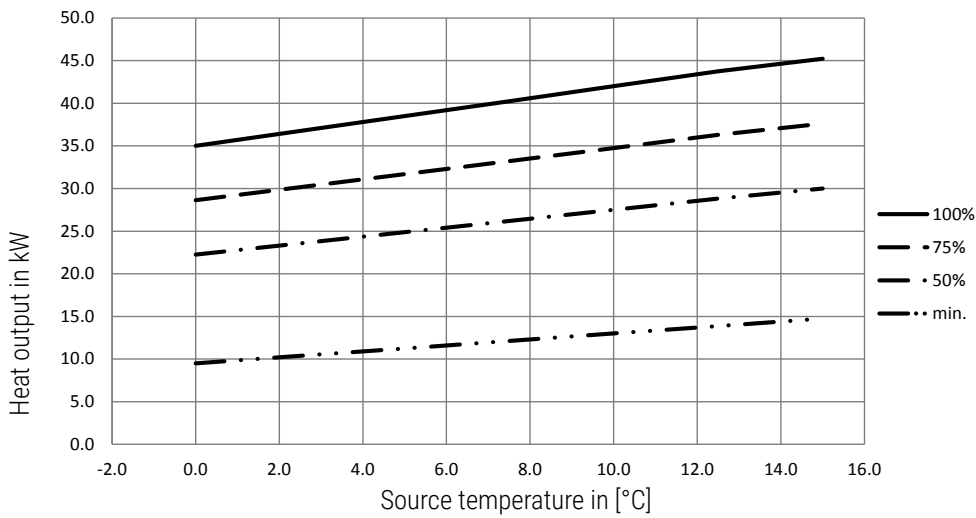
Heat output at flow temperature W55



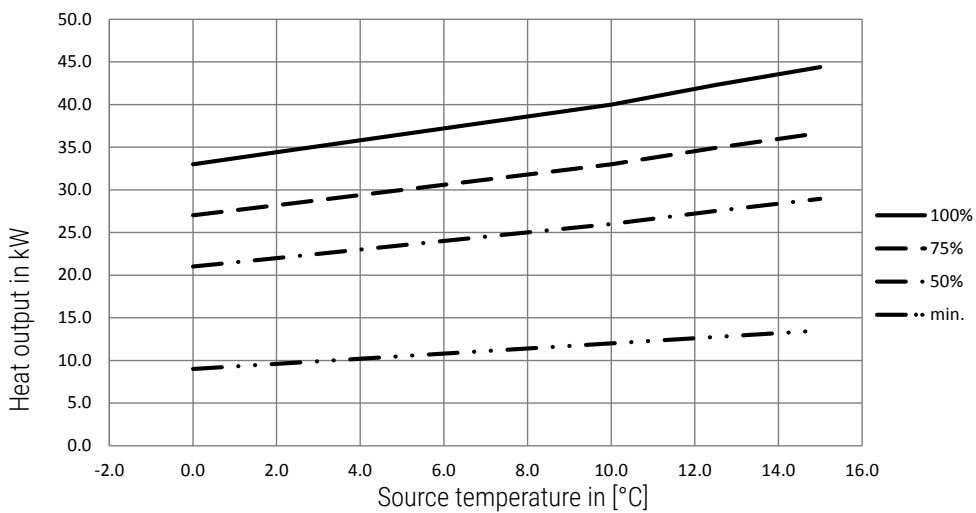
Heat output Optiheat Inverta Economy

OH I 17e water/water with controller Optiplus 3

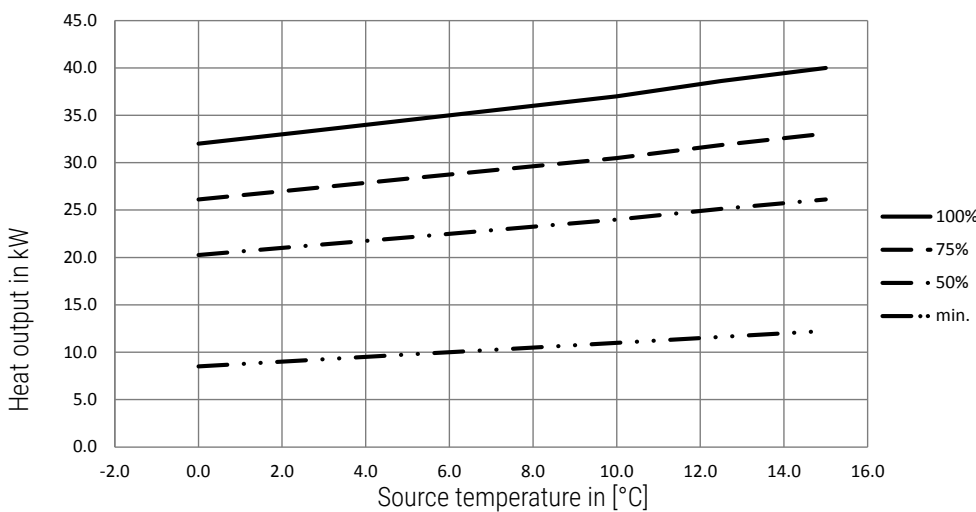
Heat output at flow temperature W35



Heat output at flow temperature W45



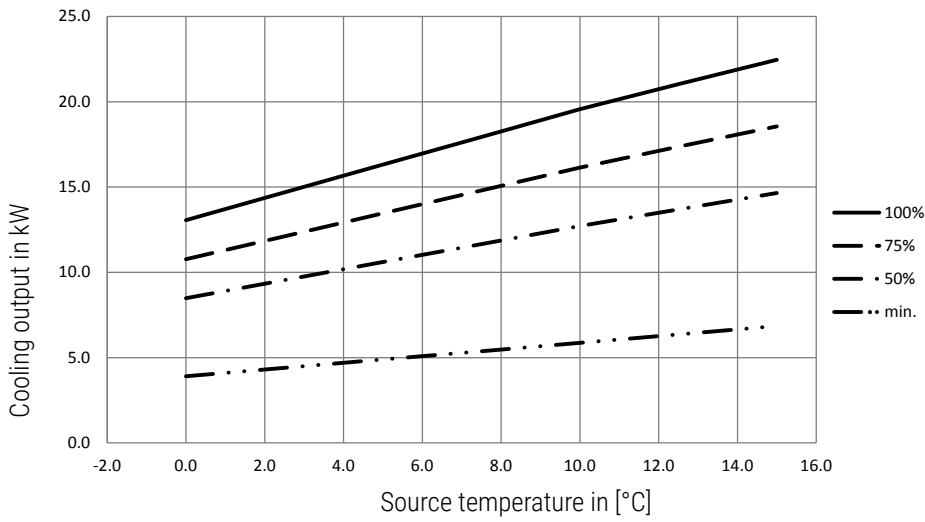
Heat output at flow temperature W55



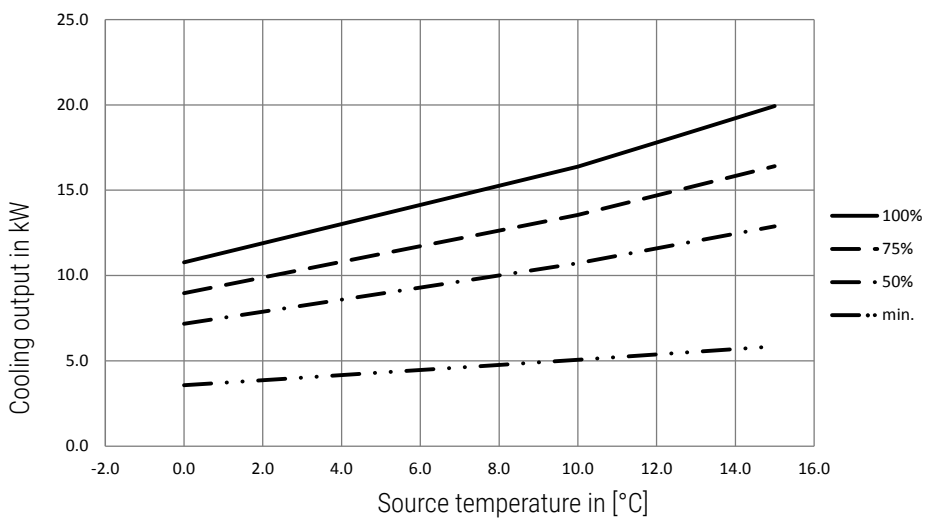
Cooling output Optiheat Inverta Economy

OH I 9e water/water with controller Optiplus 3

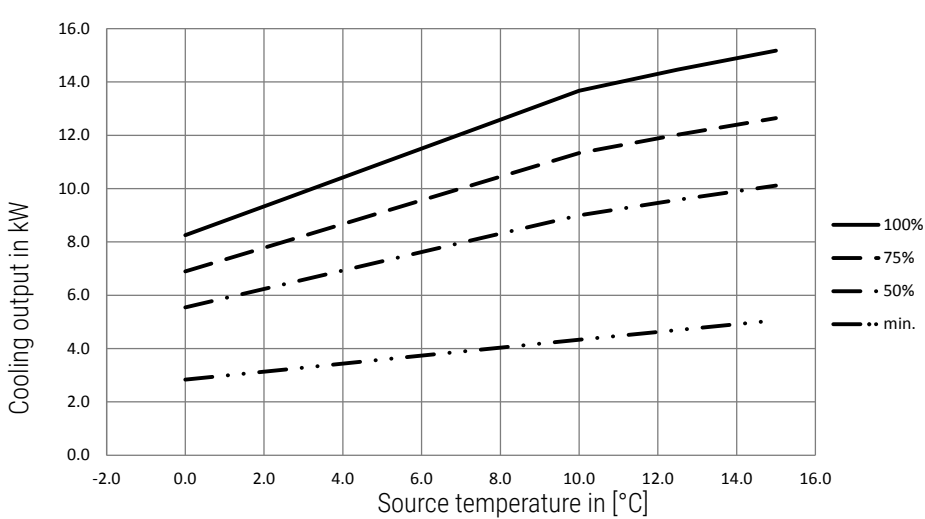
Cooling output at flow temperature W35



Cooling output at flow temperature W45



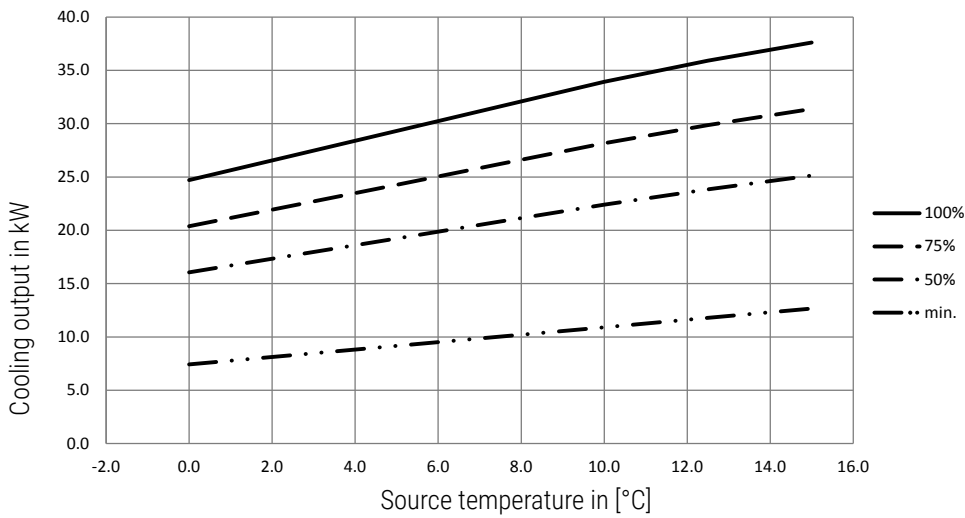
Cooling output at flow temperature W55



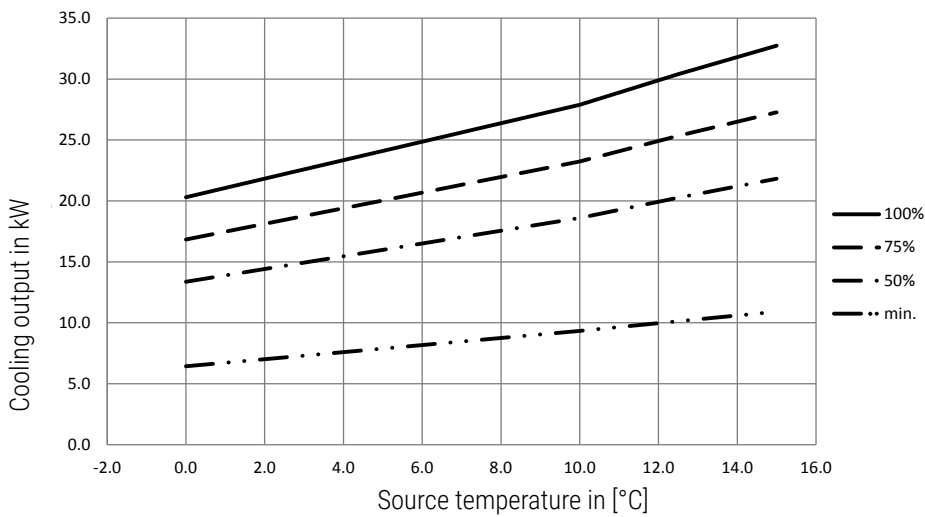
Cooling output Optiheat Inverta Economy

OH I 17e water/water with controller Optiplus 3

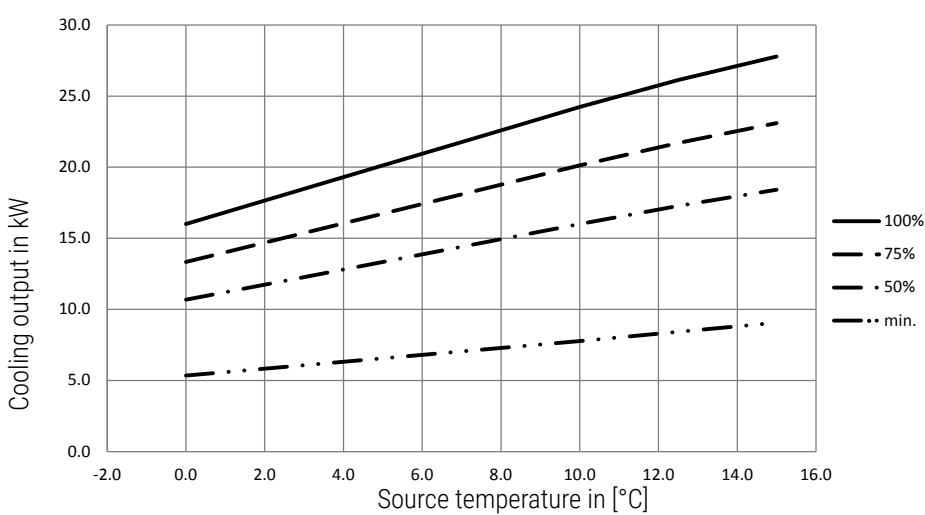
Cooling output at flow temperature W35



Cooling output at flow temperature W45



Cooling output at flow temperature W55



Additional sheet ground water connection indirect (standard) for Optiheat Inverta Economy with circuit separation

Heat source system

- Clarify space availability and accessibility for heavy tracked vehicles.
- Note existing utility lines.
- Obtain geological report on boring consent.
- Establish water and electric connection.
- Take out a liability insurance.
- Provide mud dump.

Lines for drawing and non-return wells

- Possibly select short line distance.
- Set trench depth below frost line.
- Drain trench floor.
- Embed lines in sand layer. (Risk of injury!)
- Cover only after pressure test.

External assembly

- Ensure accessibility to the wells.
- Insulate wall openings and seal against water.

Internal assembly

- Protect all lines, pumps and armatures against corrosion.
- Also install drip tray.
- Prevent structure-borne noise.

Heat insulation

- Make it vapour diffusion-tight.
- Adequate insulation thickness for preventing condensation.

On-site work

- Coordination and design of line ditches, wall openings and well shafts.
- Filling the ditch and closing the wall openings after the installation.

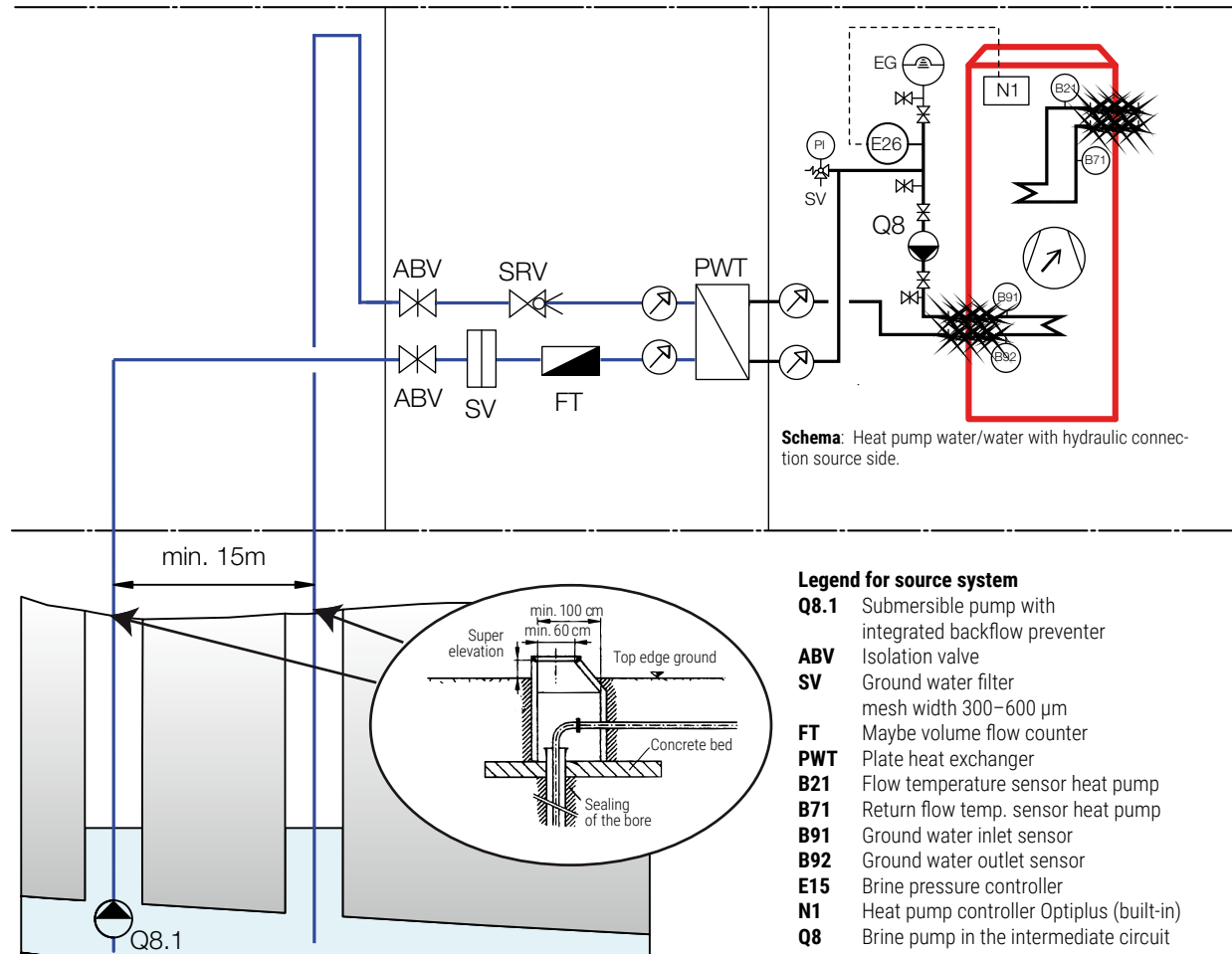
Connections

- Drawing and non-return wells.
- Ditches and openings Delivery/assembly by installation company maybe foreman.

Intermediate circuit (glycol 25%)

- Hydraulic components outside of the heat pump.

Design information



- Subject to technical changes.
- Installation of additional components as per local regulations and conditions.
- This presentation is used as planning aid for the responsible installer.

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.

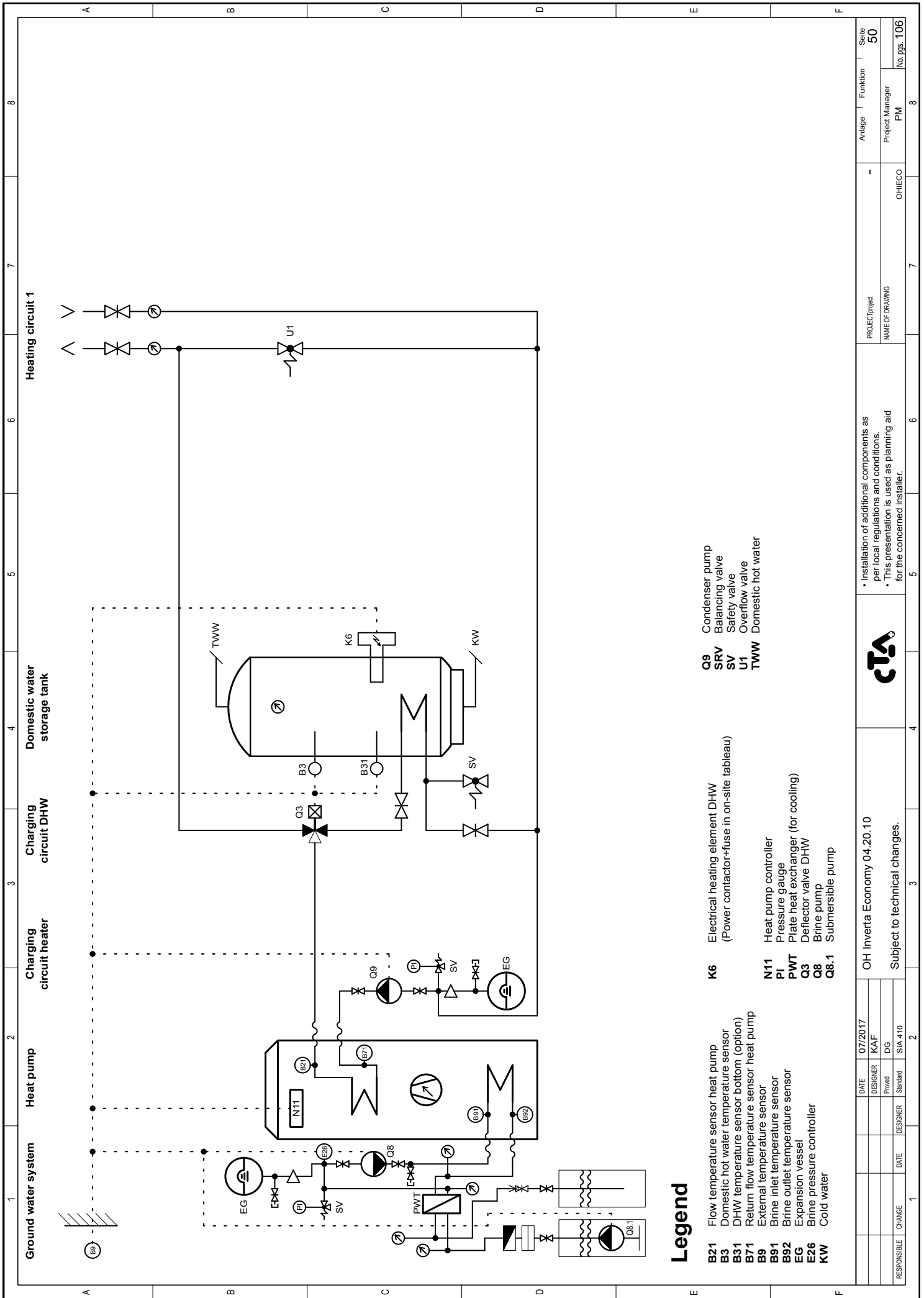
Discharge control

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).

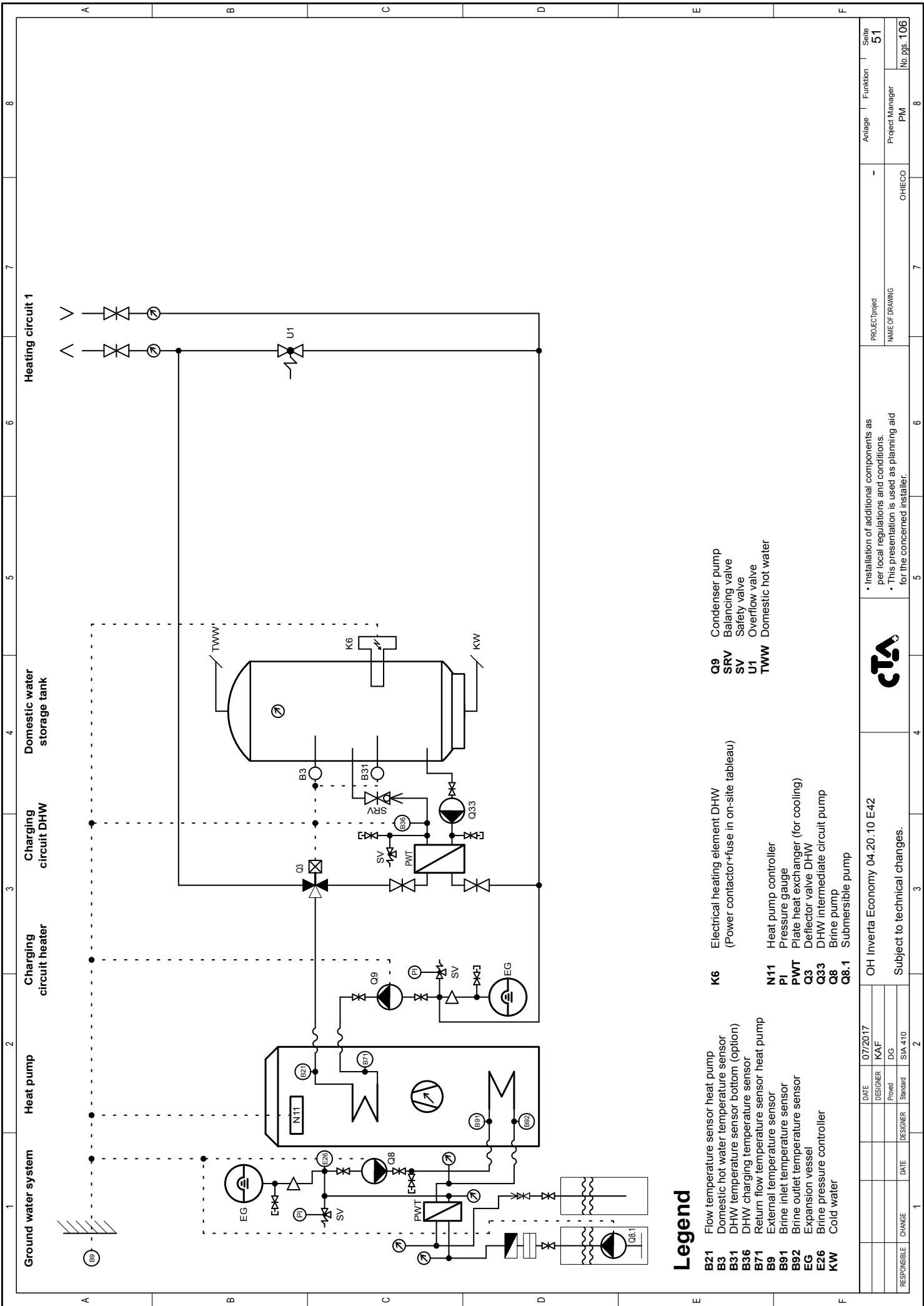
The heat pump controller runs a cooling curve via the external temperature B9, this is controlled with the mixer Y1 and the flow temperature B1. For available room thermostat valves, these must be adaptable for the cooling as well as the heating operation.



Legend

- | | |
|---|-------------------------------|
| B21 Flow temperature sensor heat pump | Q9 Condenser pump |
| B3 Domestic hot water temperature sensor | SRV Balancing valve |
| B31 DHW temperature sensor bottom (option) | SV Safety valve |
| B71 Return flow temperature sensor heat pump | U1 Overflow valve |
| B9 External temperature sensor | TWW Domestic hot water |
| B91 Brine inlet temperature sensor | |
| B92 Brine outlet temperature sensor | |
| EG Expansion vessel | |
| E26 Brine pressure controller | |
| KW Cold water | |
-
- | |
|---|
| K6 Electrical heating element DHW
(Power contactor+fuse in on-site tableau) |
| N11 Heat pump controller |
| PI Pressure gauge |
| PWT Plate heat exchanger (for cooling) |
| Q3 Deflector valve DHW |
| Q8 Brine pump |
| Q8.1 Submersible pump |

PROJECT/project		Anlage / Funktion		Seite	
NAME OF DRAWING		Project Manager		50	
OH Inverta Economy 04.20.10		OHIECO		PM	
Subject to technical changes.				8	
DATE	DESIGNER	DATE	DESIGNER	DATE	DESIGNER
07/2017	KAF				
Power	DG	Standard	SIA 410		
CHANGE					



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
- EG** Expansion vessel
- E26** Brine pressure controller
- KW** Cold water

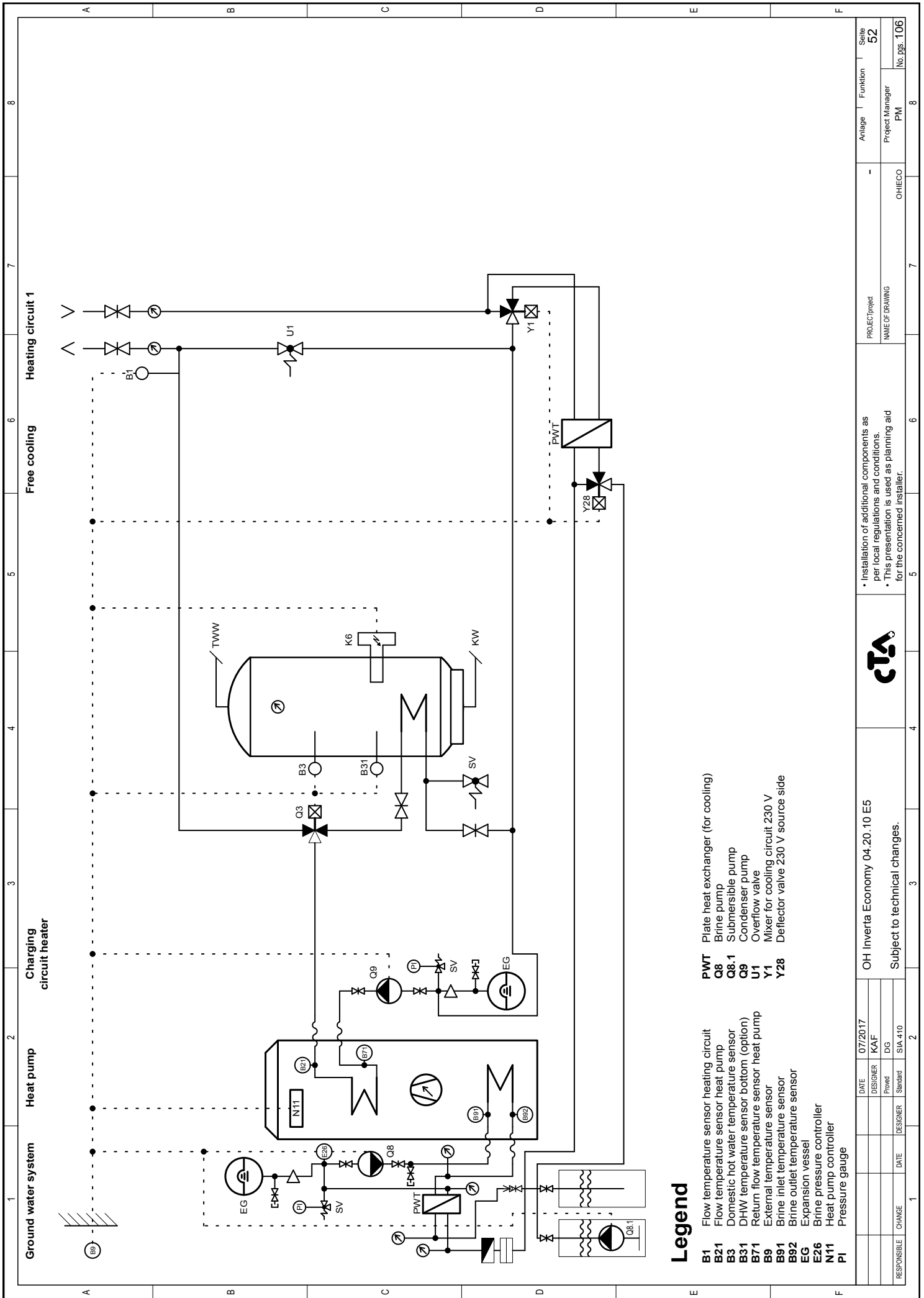
- K6** Electrical heating element DHW
(Power contactor+fuse in on-site tableau)

- N11** Heat pump controller
- PI** Pressure gauge
- PWT** Plate heat exchanger (for cooling)
- Q3** Deflector valve DHW
- Q33** DHW intermediate circuit pump
- Q8** Brine pump
- Q8.1** Submersible pump

- Q9** Condenser pump
- SRV** Balancing valve
- SV** Safety valve
- U1** Overflow valve
- TWW** Domestic hot water

	DATE	07/2017	OH Inverta Economy 04.20.10 E42	PROJECT	Anlage	Funktio	Seite
	DESIGNER	KAF	Subject to technical changes.	NAME OF DRAWING	PM		51
RESPONSIBLE	CHANGE	DATE		DESIGNER	Standard	SIA 410	
				OHIECO			No. pgs. 106

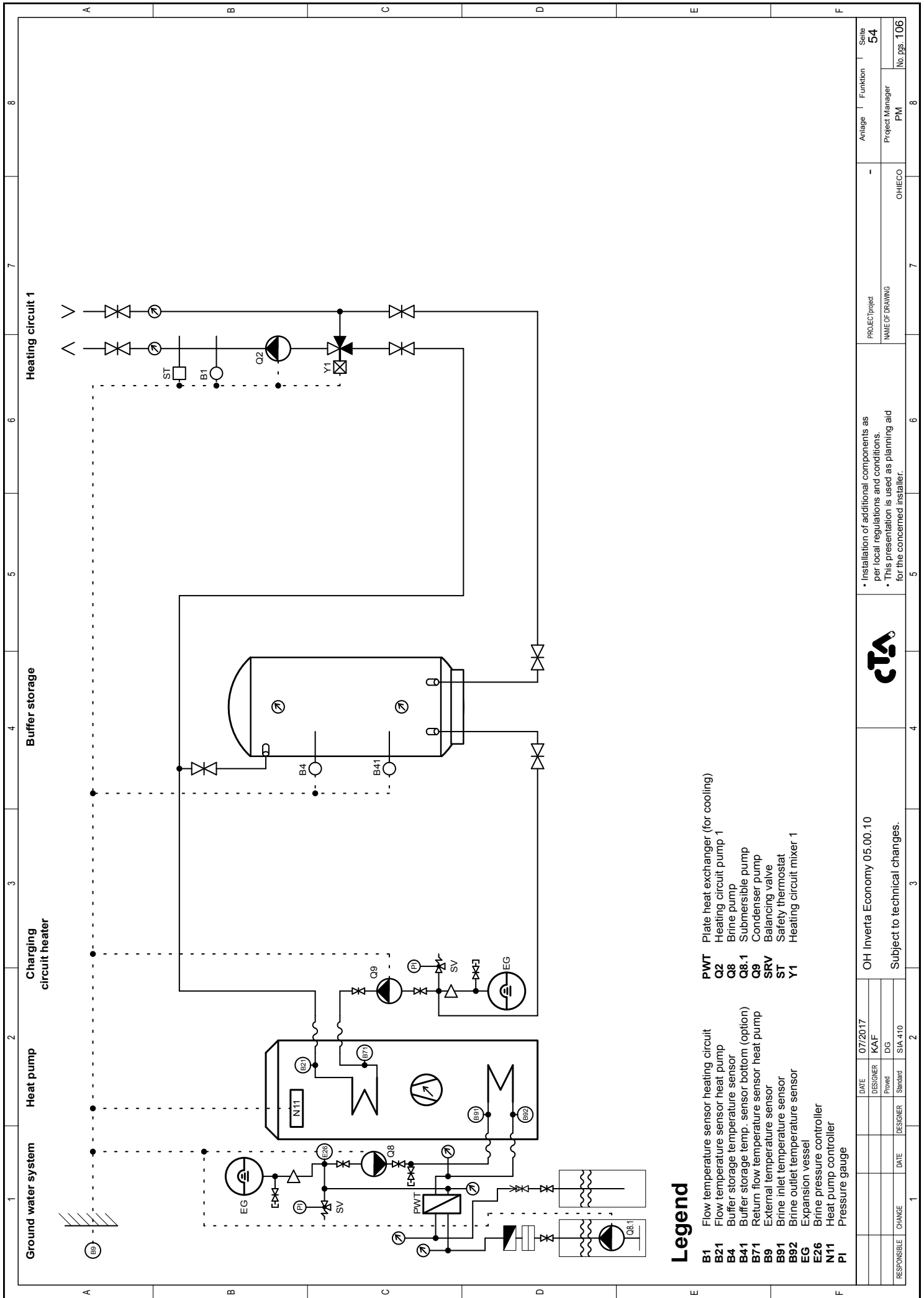




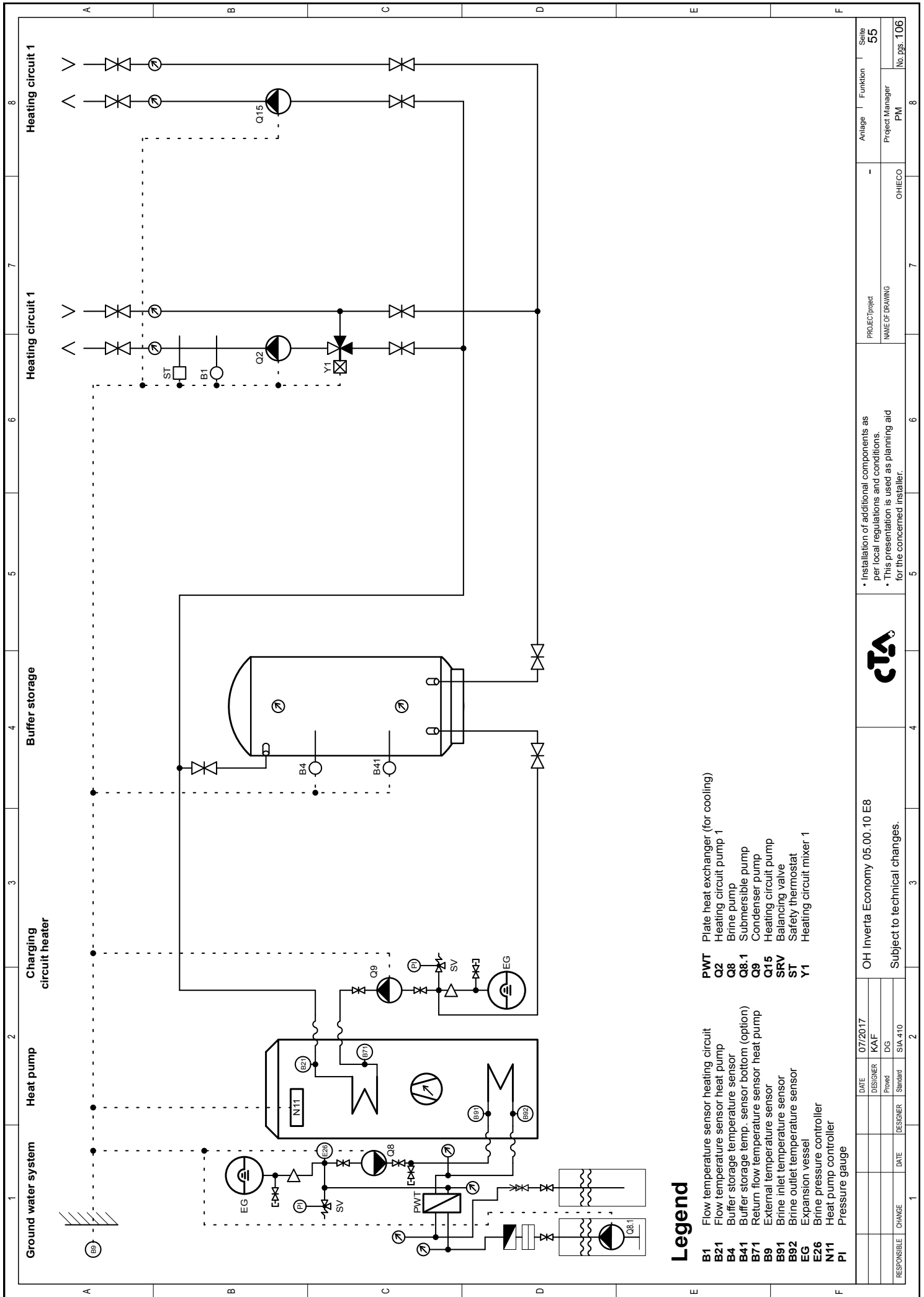
Legend

- | | | | |
|------------|--|-------------|------------------------------------|
| B1 | Flow temperature sensor heating circuit | PWT | Plate heat exchanger (for cooling) |
| B21 | Flow temperature sensor heat pump | Q8 | Brine pump |
| B3 | Domestic hot water temperature sensor | Q8.1 | Submersible pump |
| B31 | DHW temperature sensor bottom (option) | Q9 | Condenser pump |
| B71 | Return flow temperature sensor heat pump | U1 | Overflow valve |
| B9 | External temperature sensor | Y1 | Mixer for cooling circuit 230 V |
| B91 | Brine inlet temperature sensor | Y28 | Deflector valve 230 V source side |
| B92 | Brine outlet temperature sensor | | |
| E26 | Expansion vessel | | |
| N11 | Brine pressure controller | | |
| PI | Heat pump controller | | |

RESPONSIBLE		CHANGE	DATE	DESIGNER	Standard	SIA 410	OH Inverta Economy 04.20.10 E5		Subject to technical changes.		<ul style="list-style-type: none"> Installation of additional components as per local regulations and conditions. This presentation is used as planning aid for the concerned installer. 		PROJECT/project	OHIECO	Project Manager	PM	Anlage	Funktion	Seite	52	



PROJECT/project		Anlage / Funktion		Seite	
NAME OF DRAWING		Project Manager		54	
OH Inverta Economy 05.00.10		OHIECO		PM	
Subject to technical changes.				No. pgs. 106	
DATE	07/2017	DESIGNER	KAF		
CHANGE		DESIGNER	DG		
DATE		Standard	SIA 410		

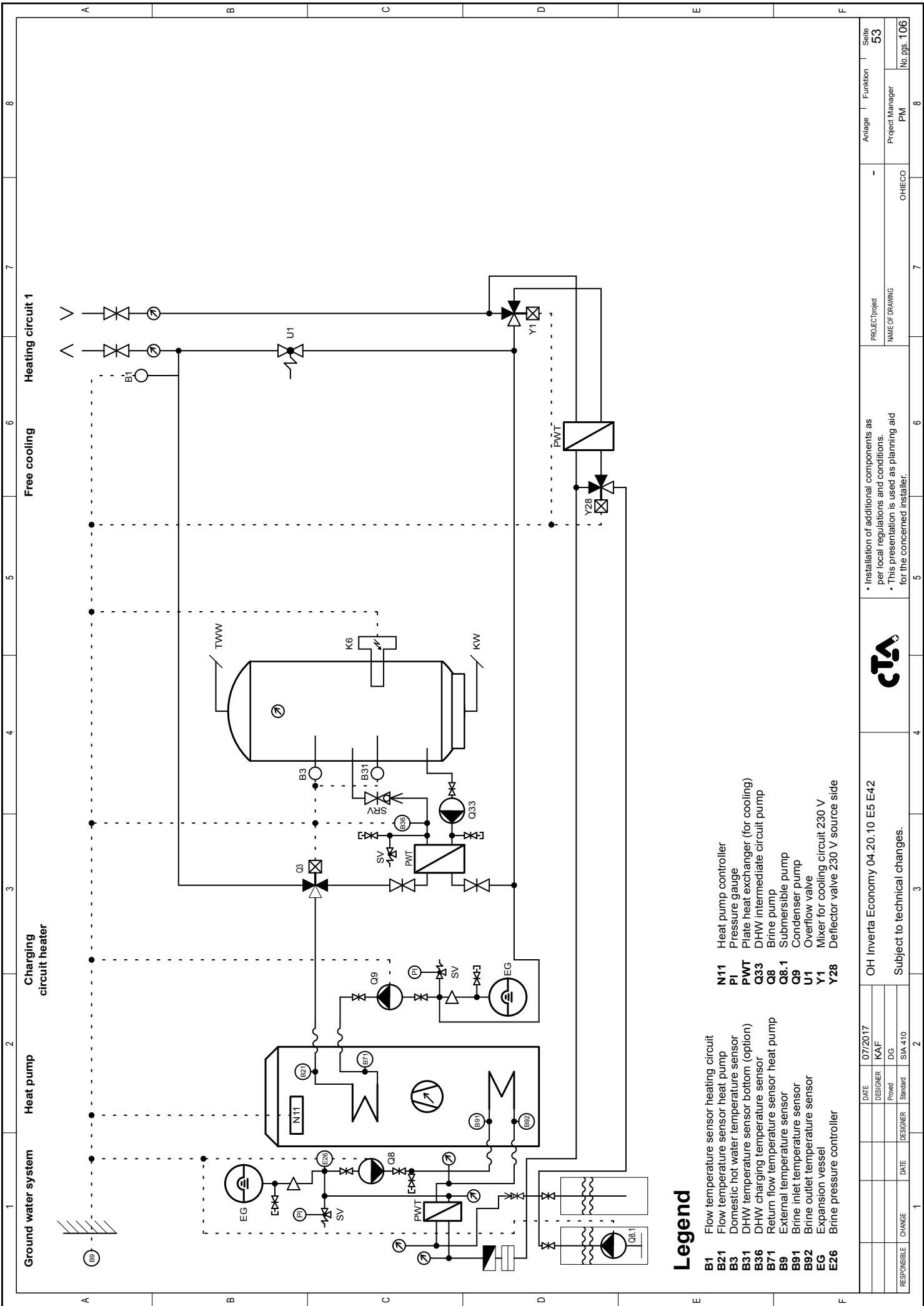


Legend

- | | | | |
|------------|---|-------------|------------------------------------|
| B1 | Flow temperature sensor heating circuit | PWT | Plate heat exchanger (for cooling) |
| B21 | Flow temperature sensor heat pump | Q2 | Heating circuit pump 1 |
| B4 | Buffer storage temperature sensor | Q8 | Brine pump |
| B41 | Buffer storage temp. sensor bottom (option) | Q8.1 | Submersible pump |
| B71 | Return flow temperature sensor heat pump | Q9 | Condenser pump |
| B9 | External temperature sensor | Q15 | Heating circuit pump |
| B91 | Brine inlet temperature sensor | SRV | Balancing valve |
| B92 | Brine outlet temperature sensor | ST | Safety thermostat |
| EG | Expansion vessel | Y1 | Heating circuit mixer 1 |
| E26 | Brine pressure controller | | |
| N11 | Heat pump controller | | |
| PI | Pressure gauge | | |

OH Inverta Economy 05.00.10 E8		PROJECT/project	Anlage	Funktion	Seite
Subject to technical changes.		NAME OF DRAWING	OHIECO	PM	55
DATE	07/2017				
DESIGNER	KAF				
PROVED	DG				
DESIGNER	Standard				
DATE	SIA 410				
CHANGE					
		PROJECT/project		Anlage	Funktion
		NAME OF DRAWING		OHIECO	PM
				Project Manager	PM
				No. pgs.	106
					8
					7
					6
					5
					4
					3
					2
					1

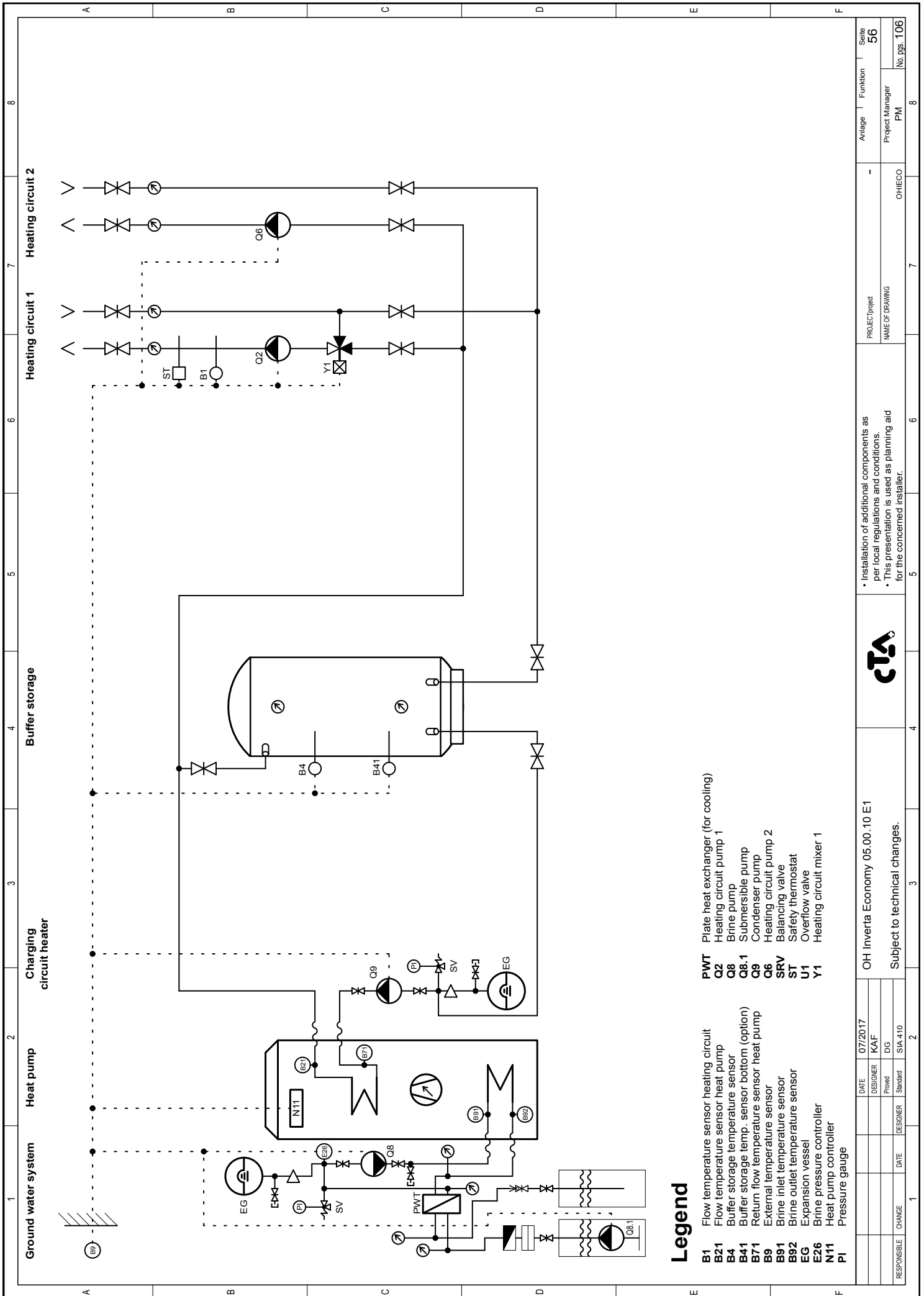




Legend

- B1 Flow temperature sensor heating circuit
- 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
- EG Expansion vessel
- E26 Brine pressure controller
- N11 Heat pump controller
- PI Pressure gauge
- PWT Plate heat exchanger (for cooling)
- Q33 DHW intermediate circuit pump
- Q8 Brine pump
- Q8.1 Submersible pump
- Q9 Condenser pump
- U1 Overflow valve
- Y1 Mixer for cooling circuit 230 V
- Y28 Deflector valve 230 V source side

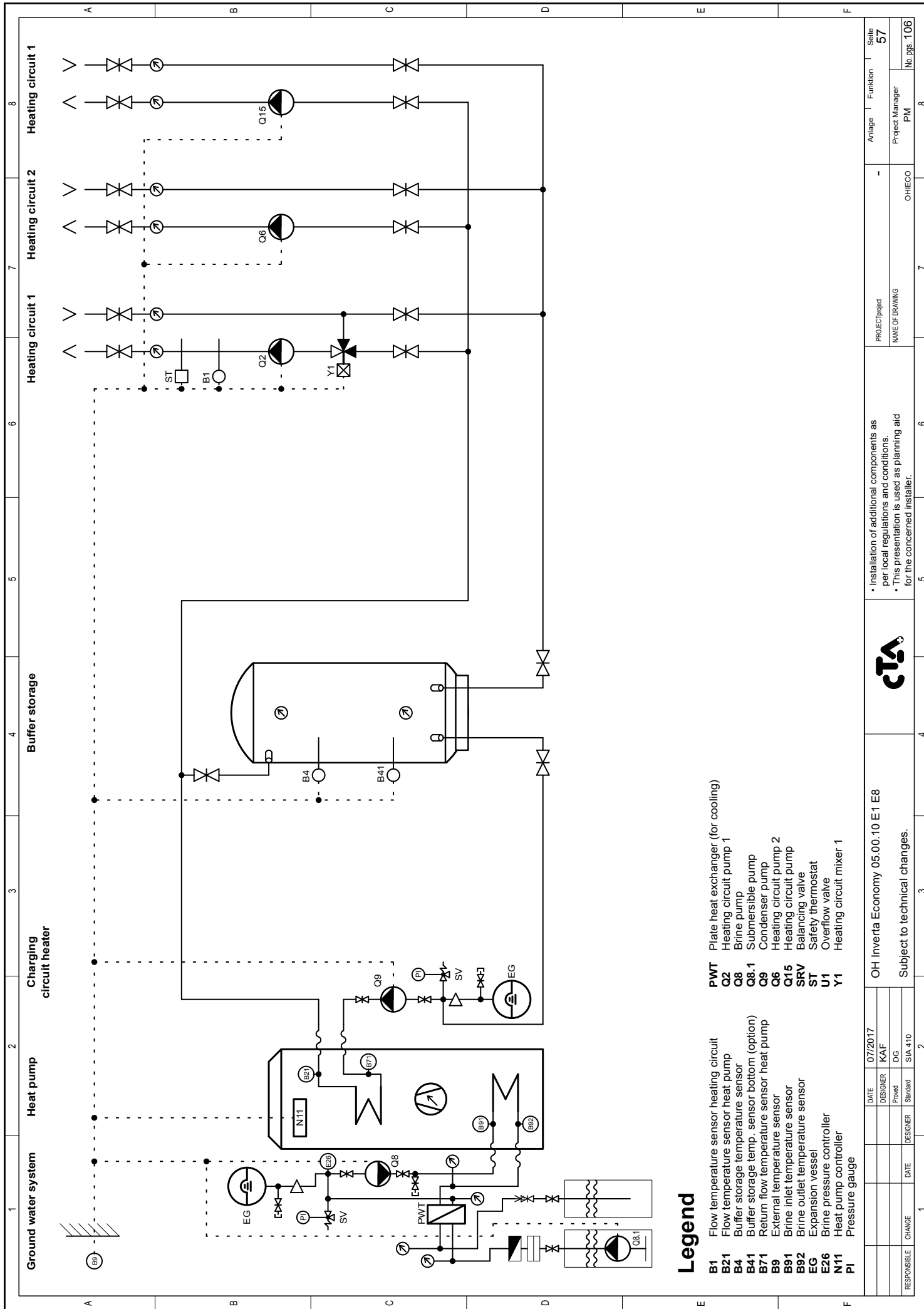
	DATE	07/2017	DESIGNER	KAF	Anlage	Funktion	Seite
	Project						53
	Drawn						
	Checked						
	Designer						
	Standard						
	SIA 410						
OH Inverta Economy 04.20.10 E5 E42					PROJECT/Project		
Subject to technical changes.					NAME OF DRAWING		
					OHIECO		
					Project Manager		
					PM		
					No. pgs. 106		



Legend

- | | | | |
|------------|---|-------------|------------------------------------|
| B1 | Flow temperature sensor heating circuit | PWT | Plate heat exchanger (for cooling) |
| B21 | Flow temperature sensor heat pump | Q2 | Heating circuit pump 1 |
| B4 | Buffer storage temperature sensor | Q8 | Brine pump |
| B41 | Buffer storage temp. sensor bottom (option) | Q8.1 | Submersible pump |
| B71 | Return flow temperature sensor heat pump | Q9 | Condenser pump |
| B9 | External temperature sensor | Q6 | Heating circuit pump 2 |
| B91 | Brine inlet temperature sensor | SRV | Balancing valve |
| B92 | Brine outlet temperature sensor | ST | Safety thermostat |
| EG | Expansion vessel | U1 | Overflow valve |
| E26 | Brine pressure controller | Y1 | Heating circuit mixer 1 |
| N11 | Heat pump controller | | |
| PI | Pressure gauge | | |

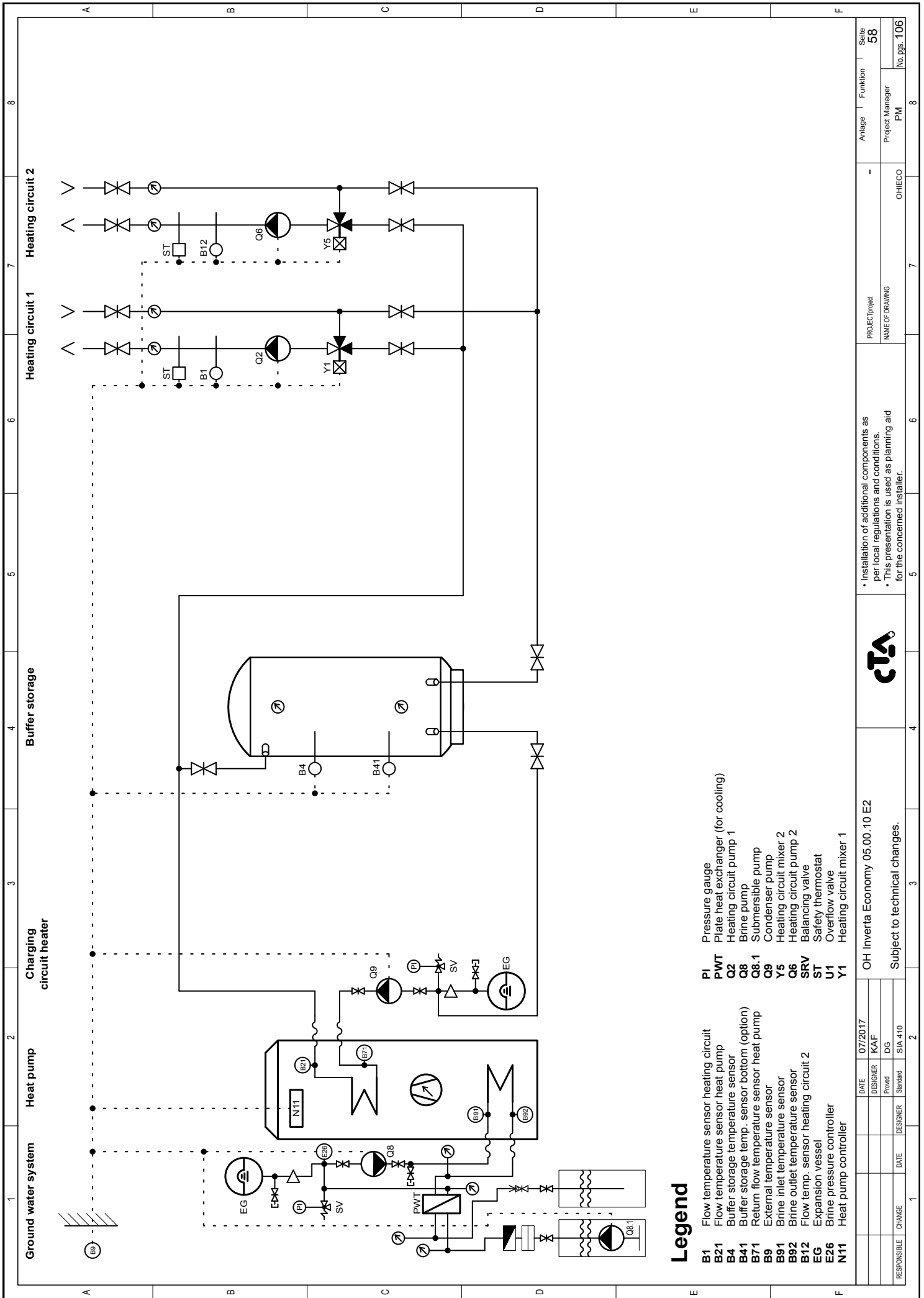
DATE		07/2017		OH Inverta Economy 05.00.10 E1		PROJECT/project		Anlage		Funktions		Seite	
DESIGNER		KAF		Subject to technical changes.		NAME OF DRAWING		Project Manager		PM		56	
Powid		DG				OHIECO						No. pgs. 106	
DESIGNER		SIA 410											
CHANGE													



Legend

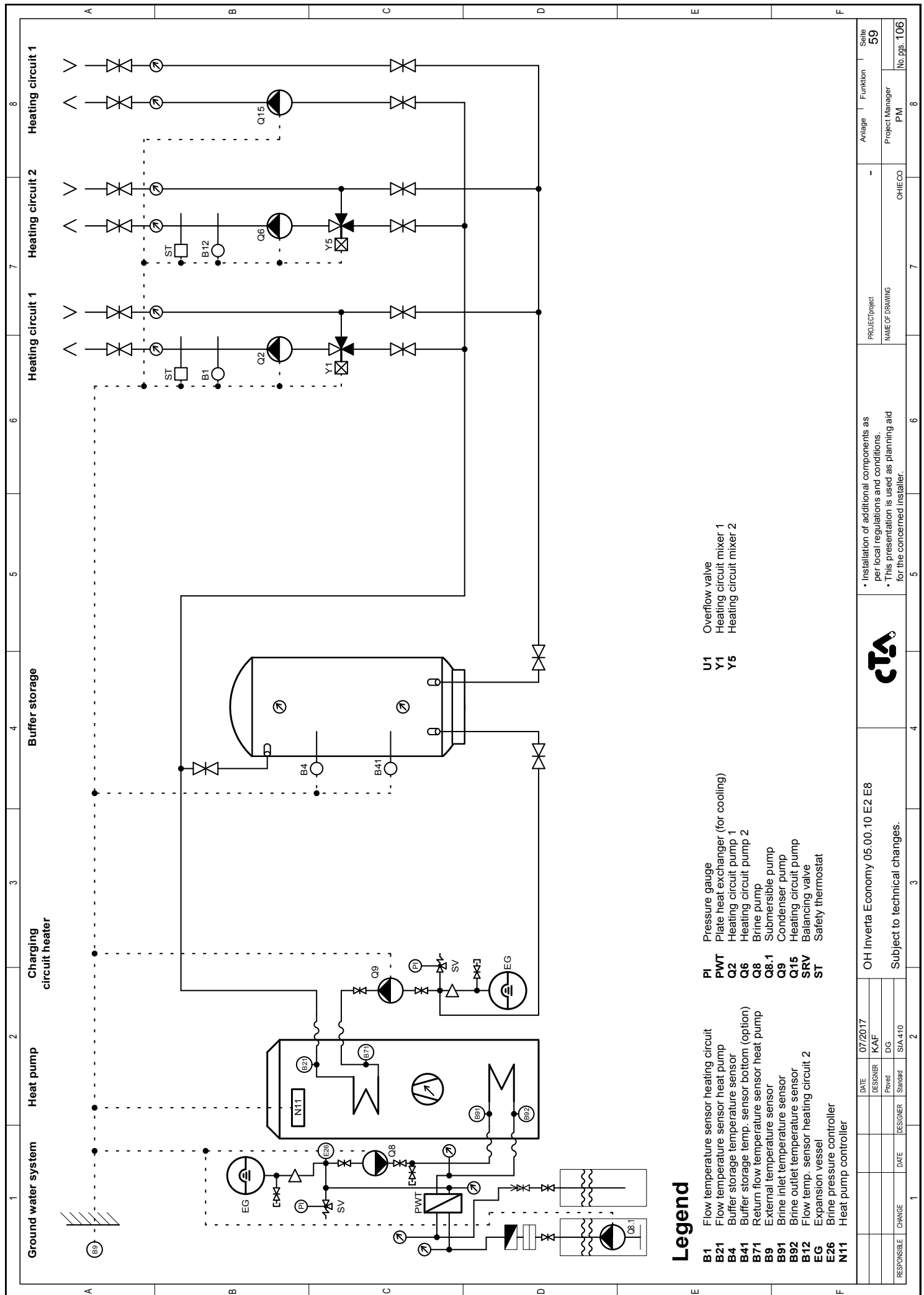
- | | | | |
|------------|---|-------------|------------------------------------|
| B1 | Flow temperature sensor heating circuit | PWT | Plate heat exchanger (for cooling) |
| B21 | Flow temperature sensor heat pump | Q2 | Heating circuit pump 1 |
| B4 | Buffer storage temperature sensor | Q8 | Brine pump |
| B41 | Buffer storage temp. sensor bottom (option) | Q8.1 | Submersible pump |
| B71 | Return flow temperature sensor heat pump | Q9 | Condenser pump |
| B9 | External temperature sensor | Q6 | Heating circuit pump 2 |
| B91 | Brine inlet temperature sensor | Q15 | Heating circuit pump |
| B92 | Brine outlet temperature sensor | SRV | Balancing valve |
| EG | Expansion vessel | ST | Safety thermostat |
| E26 | Brine pressure controller | U1 | Overflow valve |
| N11 | Heat pump controller | Y1 | Heating circuit mixer 1 |
| PI | Pressure gauge | | |

OH Inverta Economy 05.00.10 E1 E8		PROJECT/Project		Anlage / Funktion		Seite	
Subject to technical changes.		NAME OF DRAWING		Project Manager		57	
		OHIECO		PM		8	
						No. pgs. 106	
DATE	07/2017	DESIGNER	KAF				
CHANGE		DESIGNER	DG				
DATE		Standard	SIA 410				



PROJECT/project		Anlage / Funktion		Seite	
NAME OF DRAWING		Project Manager		58	
OHIECO		PM		No. pgs. 106	
Installation of additional components as per local regulations and conditions.		-		8	
This presentation is used as planning aid for the concerned installer.		OHIECO		7	
OH Inverta Economy 05.00.10 E2		Subject to technical changes.		6	
DATE 07/2017		DESIGNER KAF		2	
DESIGNER		Powid		DG	
DATE		DESIGNER		SIA 410	
CHANGE		DATE		DESIGNER	



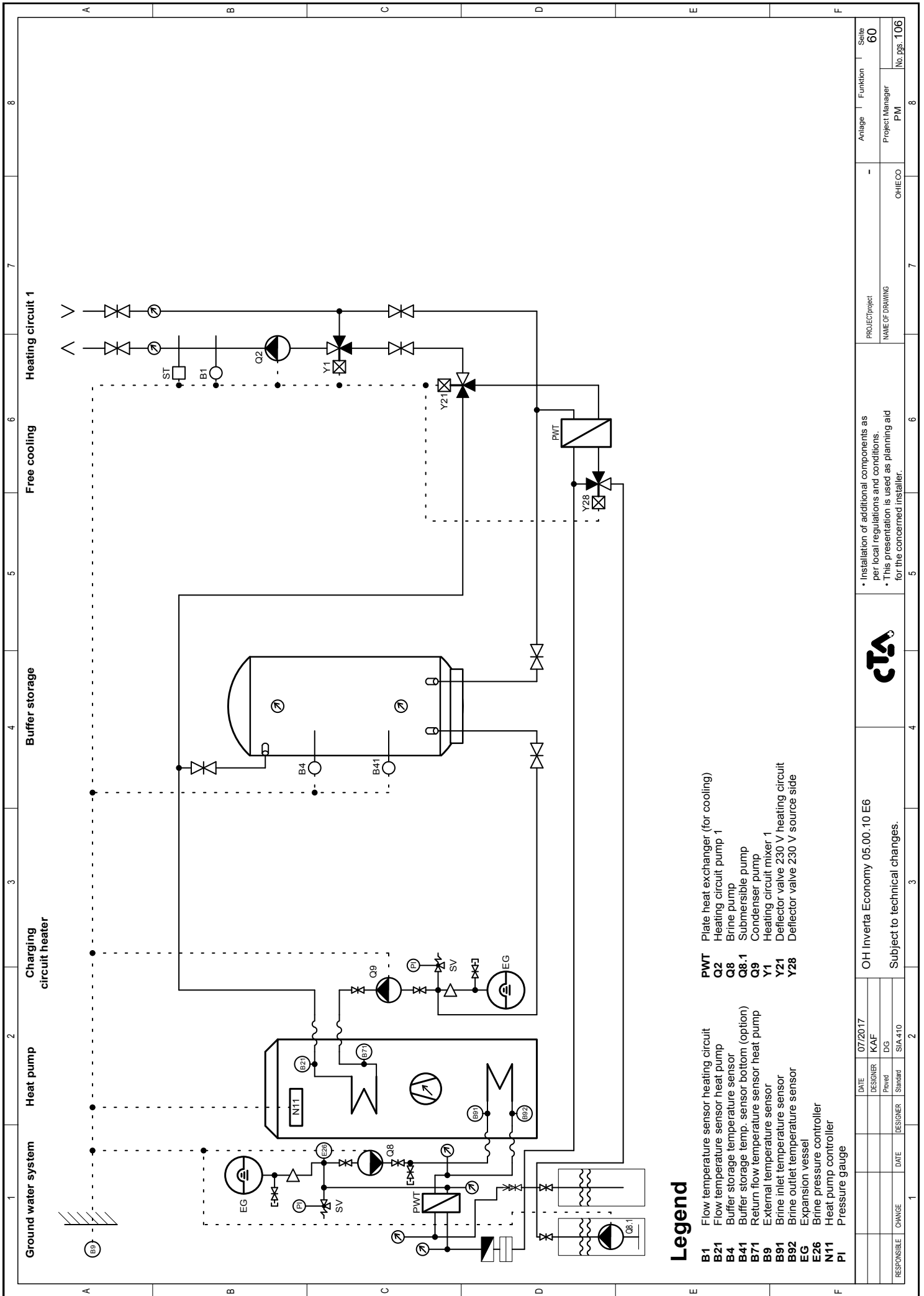


Legend

- B1 Flow temperature sensor heating circuit
- 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
- B12 Flow temp. sensor heating circuit 2
- E26 Expansion vessel
- N11 Heat pump controller
- PI Pressure gauge
- PWT Plate heat exchanger (for cooling)
- Q2 Heating circuit pump 1
- Q6 Heating circuit pump 2
- Q8 Brine pump
- Q8-1 Submersible pump
- Q9 Condenser pump
- Q15 Heating circuit pump
- SRV Balancing valve
- ST Safety thermostat
- U1 Overflow valve
- Y1 Heating circuit mixer 1
- Y5 Heating circuit mixer 2


		DATE	07/2017	OH Inverta Economy 05.00.10 E2 E8			PROJECT/project	Anlage	Funktion	Seite
		DESIGNER	KAF				NAME OF DRAWING	OHIECO	Project Manager	59
RESPONSIBLE	CHANGE	DATE	DESIGNER	Standard	2			PM		No. pgs. 106
		Revised	DG	Subject to technical changes.	3					8
		Standard	SIA 410		4					
					5					
					6					
					7					
					8					

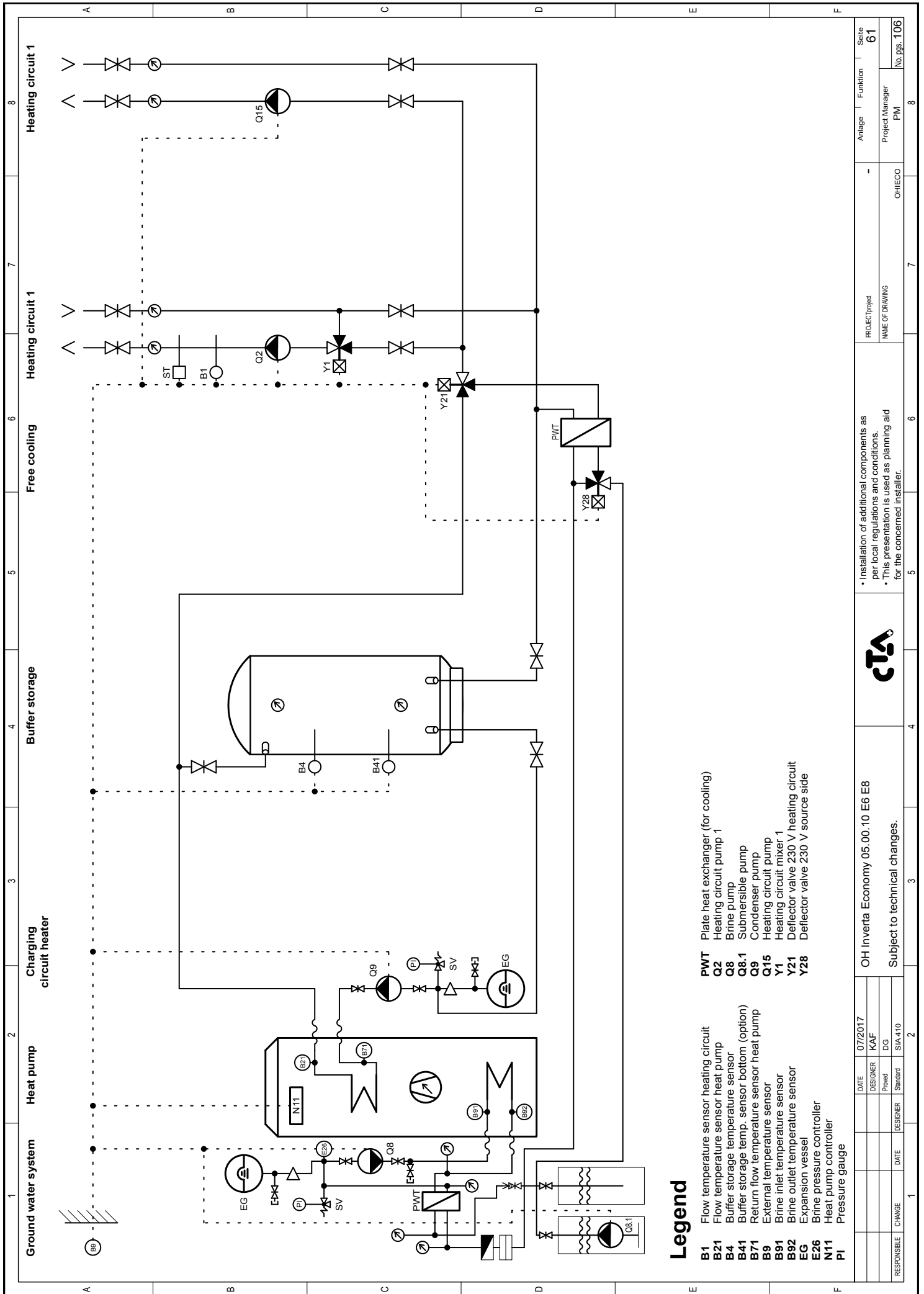




Legend

- | | | | |
|------------|---|-------------|---------------------------------------|
| B1 | Flow temperature sensor heating circuit | PWT | Plate heat exchanger (for cooling) |
| B21 | Flow temperature sensor heat pump | Q2 | Heating circuit pump 1 |
| B4 | Buffer storage temperature sensor | Q8 | Brine pump |
| B41 | Buffer storage temp. sensor bottom (option) | Q8.1 | Submersible pump |
| B71 | Return flow temperature sensor heat pump | Q9 | Condenser pump |
| B9 | External temperature sensor | Y1 | Heating circuit mixer 1 |
| B91 | Brine inlet temperature sensor | Y21 | Deflector valve 230 V heating circuit |
| B92 | Brine outlet temperature sensor | Y28 | Deflector valve 230 V source side |
| EG | Expansion vessel | | |
| E26 | Brine pressure controller | | |
| N11 | Heat pump controller | | |
| PI | Pressure gauge | | |

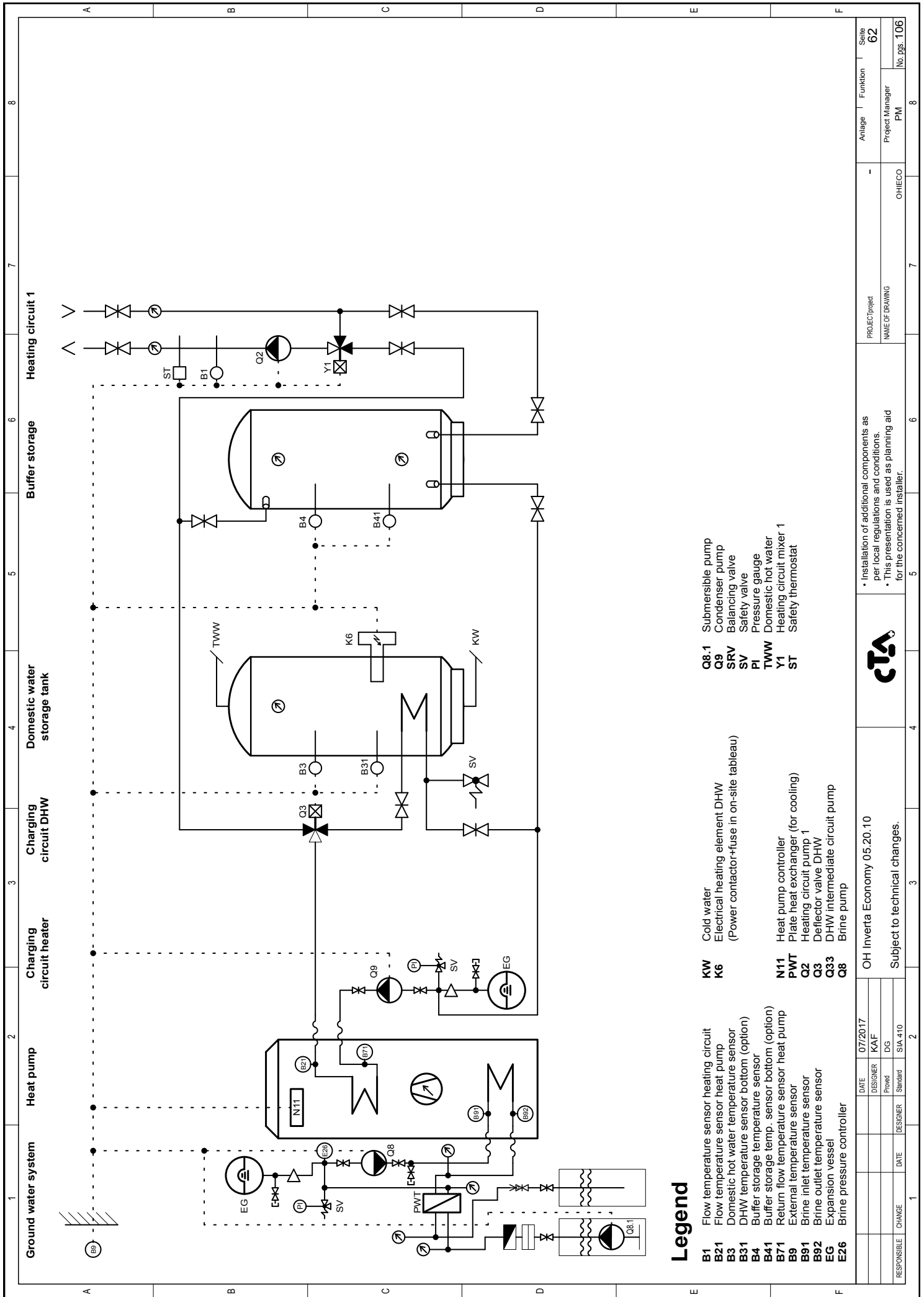
RESPONSIBLE		CHANGE	DATE	DESIGNER	OH Inverta Economy 05.00.10 E6		OH/ECO		PROJECT/project		Anlage	Funktion	Seite
					Subject to technical changes.				NAME OF DRAWING		Project Manager		60
									PM				No. pgs. 106
									OH/ECO				
<ul style="list-style-type: none"> Installation of additional components as per local regulations and conditions. This presentation is used as planning aid for the concerned installer. 													
													
<div style="display: flex; justify-content: space-between;"> 1 2 3 4 5 6 7 8 </div>													



Legend

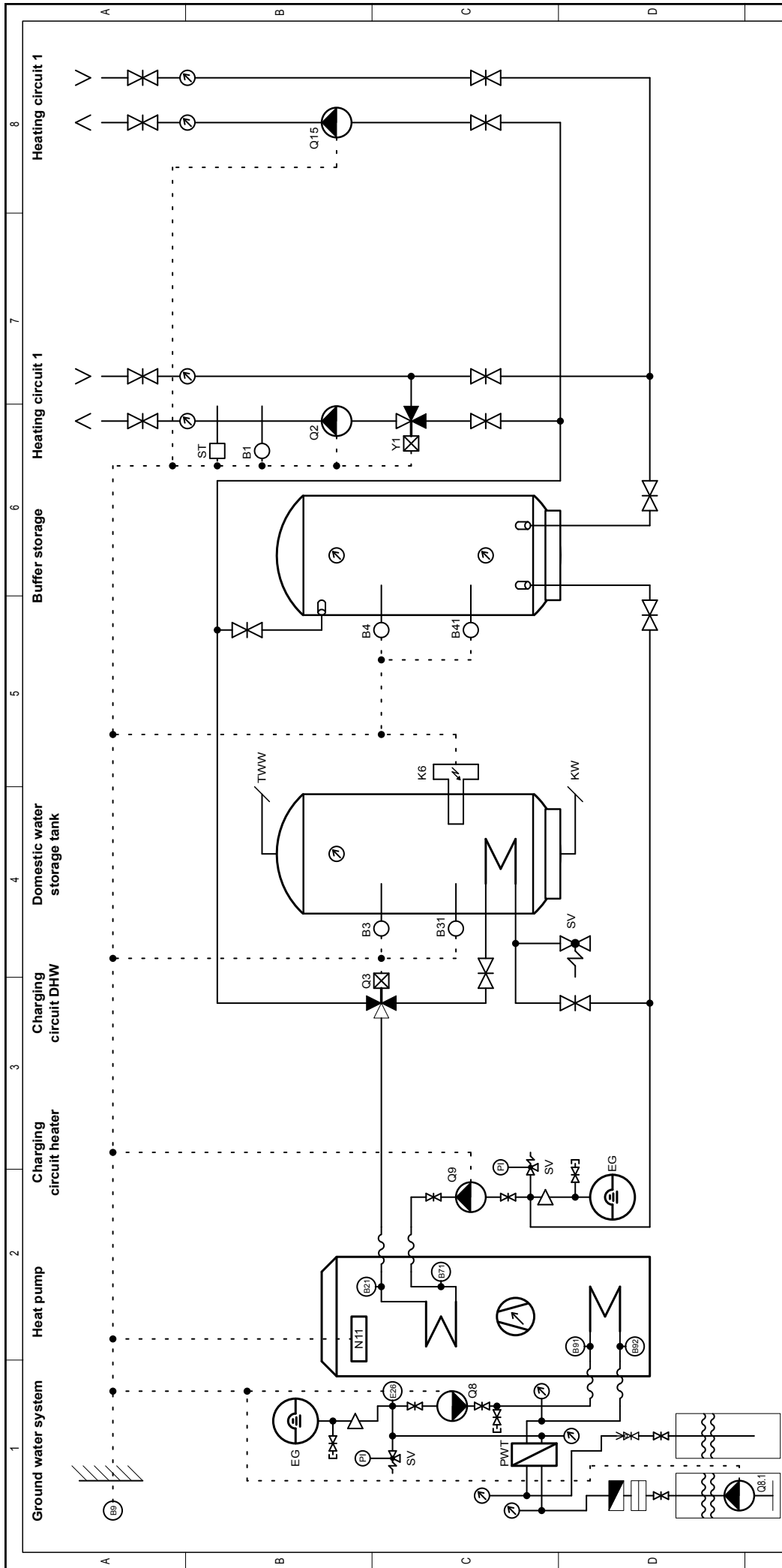
- B1 Flow temperature sensor heating circuit
- B21 Flow temperature sensor heat pump
- B4 Buffer storage temperature sensor
- B41 Buffer storage temp. sensor bottom (option)
- B71 Return flow temperature sensor heat pump
- B9 External temperature sensor
- B91 Brine inlet temperature sensor
- B92 Brine outlet temperature sensor
- EG Expansion vessel
- E26 Brine pressure controller
- N11 Heat pump controller
- PI Pressure gauge
- PWT Plate heat exchanger (for cooling)
- Q2 Heating circuit pump 1
- Q8 Brine pump
- Q8.1 Submersible pump
- Q9 Condenser pump
- Q15 Heating circuit pump
- Y1 Heating circuit mixer 1
- Y21 Deflector valve 230 V heating circuit
- Y28 Deflector valve 230 V source side

RESPONSIBLE	CHANGE	DATE	DESIGNER	Standard	SIA 410	2		
			Prüfend	DIG				
		DATE	DESIGNER	KAF	OH Inverta Economy 05.00.10 E6 E8			
		07/2017						
					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/ECO	
					Anlage / Funktion		Seite 61	
					Project Manager PM		No. pgs. 106	




PROJECt/project	-	Anlage	Funktion	Seite
NAME OF DRAWING	OHIECO	Project Manager	PM	62
• Installation of additional components as per local regulations and conditions.				
• This presentation is used as planning aid for the concerned installer.				
DATE	07/2017	DESIGNER	KAF	
CHANGE		DESIGNER	Standard	
		Stand	SIA 410	
		Power	DG	
OH Inverta Economy 05.20.10				
Subject to technical changes.				
RESPONSIBLE		DATE		

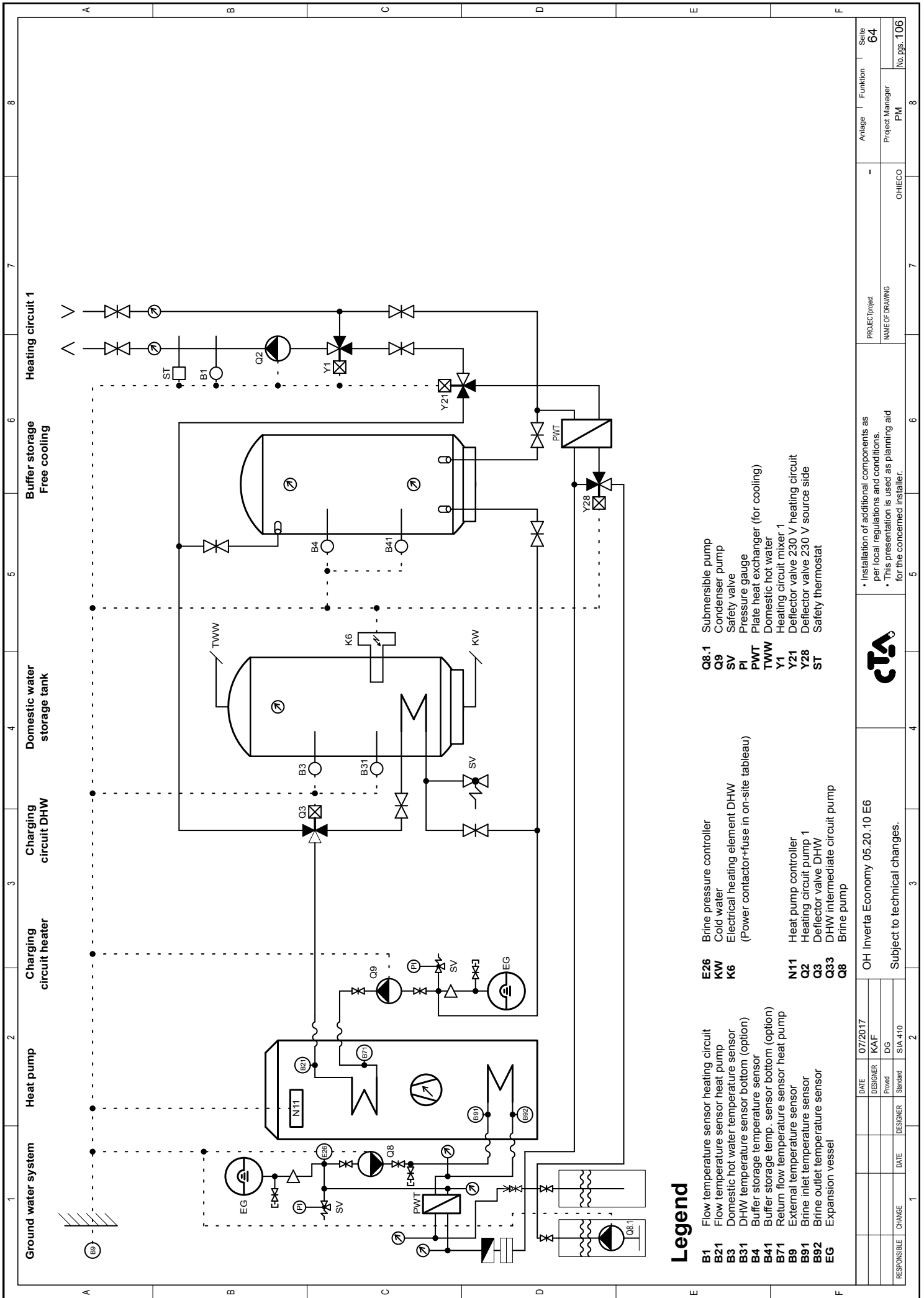




Legend

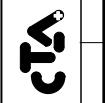
- | | | |
|--|--|-----------------------------------|
| B1 Flow temperature sensor heating circuit | KW Cold water | Q8.1 Submersible pump |
| B21 Flow temperature sensor heat pump | K6 Electrical heating element DHW (Power contactor+fuse in on-site tableau) | Q9 Condenser pump |
| B3 Domestic hot water temperature sensor | | Q15 Heating circuit pump |
| B31 DHW temperature sensor bottom (option) | | SRV Balancing valve |
| B4 Buffer temperature sensor | | SV Safety valve |
| B41 Buffer storage temp. sensor bottom (option) | | PI Pressure gauge |
| B71 Return flow temperature sensor heat pump | | TWW Domestic hot water |
| B91 External temperature sensor | N11 Heat pump controller | Y1 Heating circuit mixer 1 |
| B92 Brine inlet temperature sensor | PWT Plate heat exchanger (for cooling) | ST Safety thermostat |
| EG Expansion vessel | Q2 Heating circuit pump 1 | |
| E26 Brine pressure controller | Q3 DHW intermediate circuit pump | |
| | Q8 Brine pump | |

RESPONSIBLE		CHANGE	DATE	DESIGNER	Standard	SIA 410	OH Inverta Economy 05.20.10 EB		Subject to technical changes.				<ul style="list-style-type: none"> • Installation of additional components as per local regulations and conditions. • This presentation is used as planning aid for the concerned installer. 		PROJECT/project	ANLAGE / Funktion	Seite
				KAF	DG								OHIECO		PM	63	
																No. pgs. 106	



PROJECT/project	-	Anlage / Funktion	Seite
NAME OF DRAWING	OHIECO	Project Manager	64
		PM	No. pgs. 106
			8
			7
			6
			5
			4
			3
			2
			1

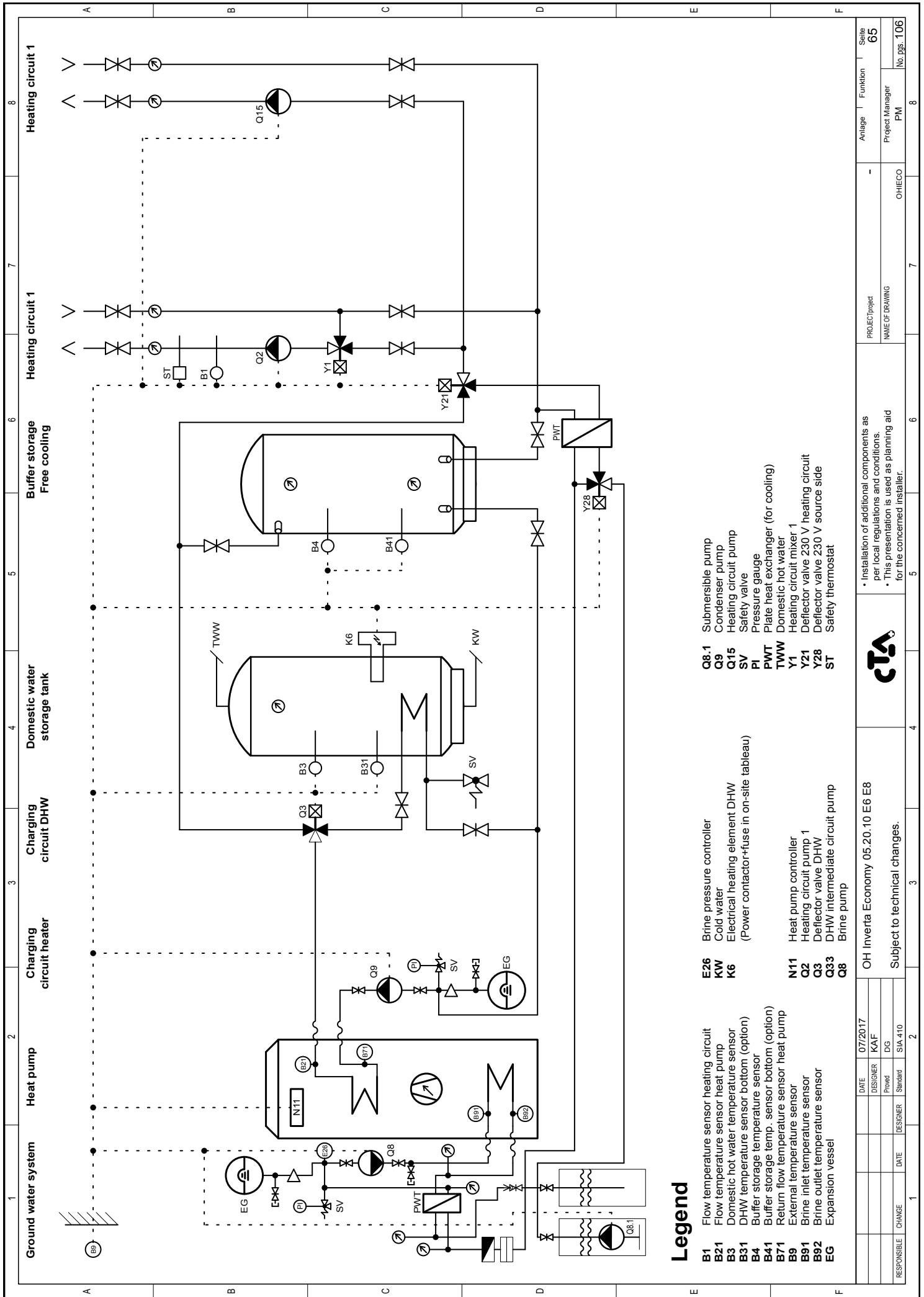
• Installation of additional components as per local regulations and conditions.
 • This presentation is used as planning aid for the concerned installer.



OH Inverta Economy 05.20.10 EG
 Subject to technical changes.

DATE	07/2017	DESIGNER	KAF
CHANGE		Power	DG
		Standard	SIA 410

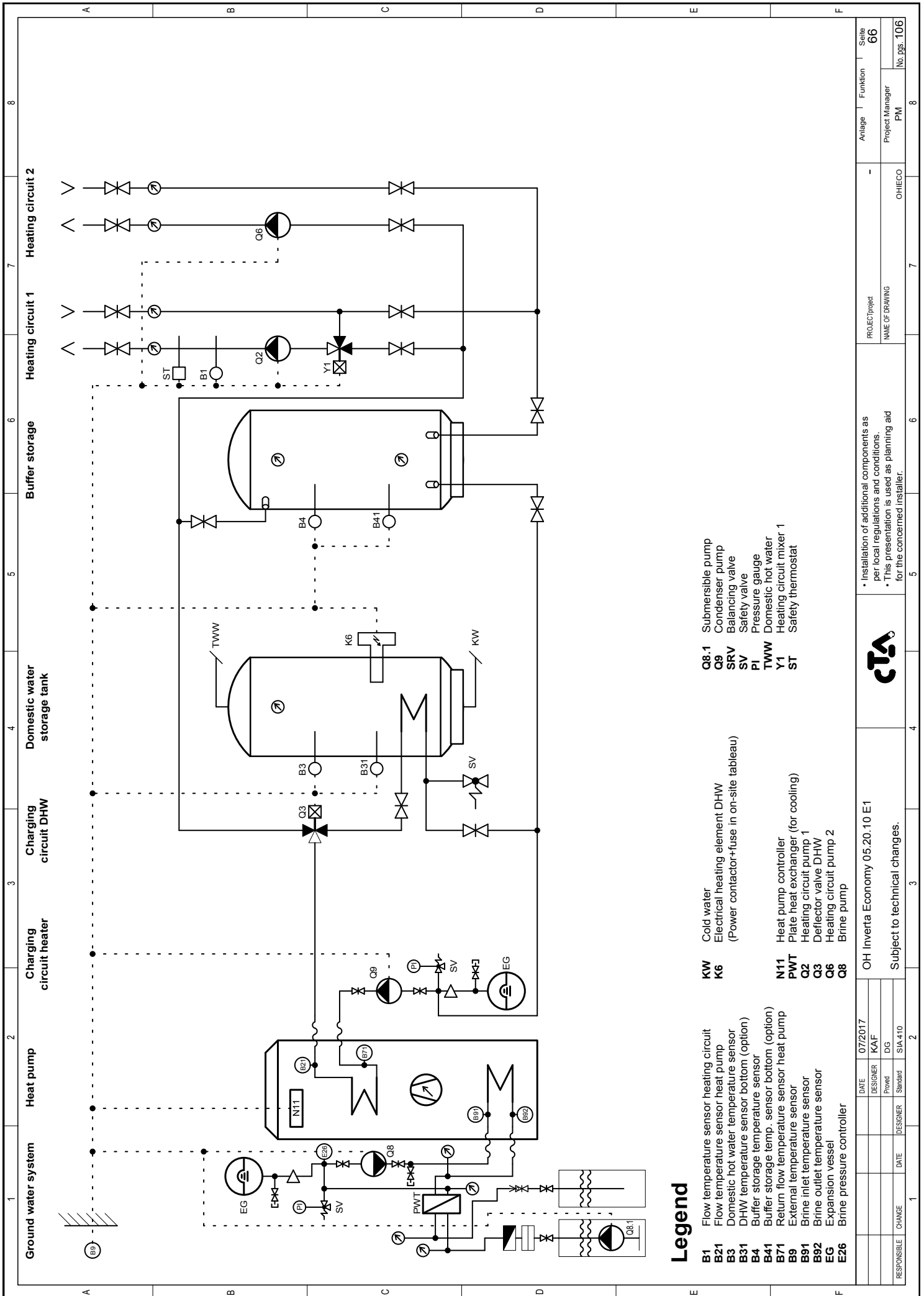




Legend

- | | | | |
|------------|---|-------------|---------------------------------------|
| B1 | Flow temperature sensor heating circuit | Q8.1 | Submersible pump |
| B21 | Flow temperature sensor heat pump | Q9 | Condenser pump |
| B3 | Domestic hot water temperature sensor | Q15 | Heating circuit pump |
| B31 | DHW temperature sensor bottom (option) | SV | Safety valve |
| B4 | Buffer temperature sensor | PI | Pressure gauge |
| B41 | Buffer storage temp. sensor bottom (option) | PWT | Plate heat exchanger (for cooling) |
| B71 | Return flow temperature sensor heat pump | TWW | Domestic hot water |
| B9 | External temperature sensor | Y1 | Heating circuit mixer 1 |
| B91 | Brine inlet temperature sensor | Y21 | Deflector valve 230 V heating circuit |
| B92 | Brine outlet temperature sensor | Y28 | Deflector valve 230 V source side |
| EG | Expansion vessel | ST | Safety thermostat |
| E26 | Brine pressure controller | | |
| KW | Cold water | | |
| K6 | Electrical heating element DHW
(Power contactor+fuse in on-site tableau) | | |
| N11 | Heat pump controller | | |
| Q2 | Heating circuit pump 1 | | |
| Q3 | Deflector valve DHW | | |
| Q33 | DHW intermediate circuit pump | | |
| Q8 | Brine pump | | |

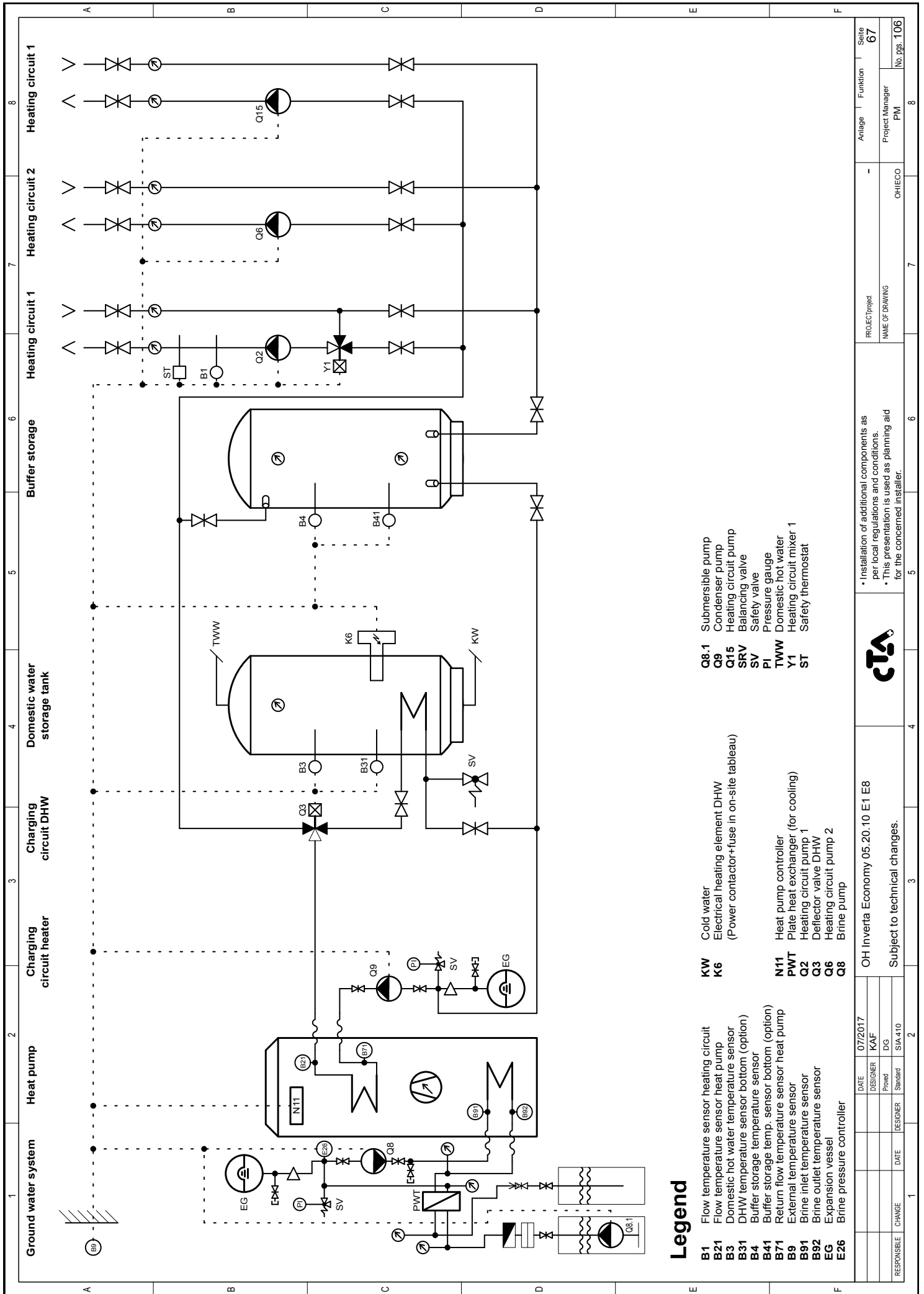
DATE		07/2017		OH Inverta Economy 05.20.10 E6 E8		PROJECT/project		Anlage / Funktion		Seite	
DESIGNER		KAF		Subject to technical changes.		NAME OF DRAWING		OHIECO		Project Manager	
Powid		DG						PM		65	
DESIGNER		SIA 410								No. pgs. 106	
CHANGE										8	



Legend

- | | | | | | |
|------------|---|------------|--|-------------|-------------------------|
| B1 | Flow temperature sensor heating circuit | KW | Cold water | Q8.1 | Submersible pump |
| B21 | Flow temperature sensor heat pump | K6 | Electrical heating element DHW (Power contactor+fuse in on-site tableau) | Q9 | Condenser pump |
| B3 | Domestic hot water temperature sensor | N11 | Heat pump controller | SRV | Balancing valve |
| B31 | DHW temperature sensor bottom (option) | PWT | Plate heat exchanger (for cooling) | SV | Safety valve |
| B4 | Buffer storage temperature sensor | Q2 | Heating circuit pump 1 | PI | Pressure gauge |
| B41 | Buffer storage temp. sensor bottom (option) | Q3 | Deflector valve DHW | TWW | Domestic hot water |
| B71 | Return flow temperature sensor heat pump | Q6 | Heating circuit pump 2 | Y1 | Heating circuit mixer 1 |
| B9 | External temperature sensor | Q8 | Brine pump | ST | Safety thermostat |
| B91 | Brine inlet temperature sensor | | | | |
| B92 | Brine outlet temperature sensor | | | | |
| EG | Expansion vessel | | | | |
| E26 | Brine pressure controller | | | | |

DATE	07/2017	OH Inverta Economy 05.20.10 E1	PROJECT/project	OHIECO	Anlage	Funktion	Seite
DESIGNER	KAF	Subject to technical changes.	NAME OF DRAWING		Project Manager	PM	66
Powerd	DG						No. pgs. 106
DESIGNER	Standard						
CHANGE	DATE						

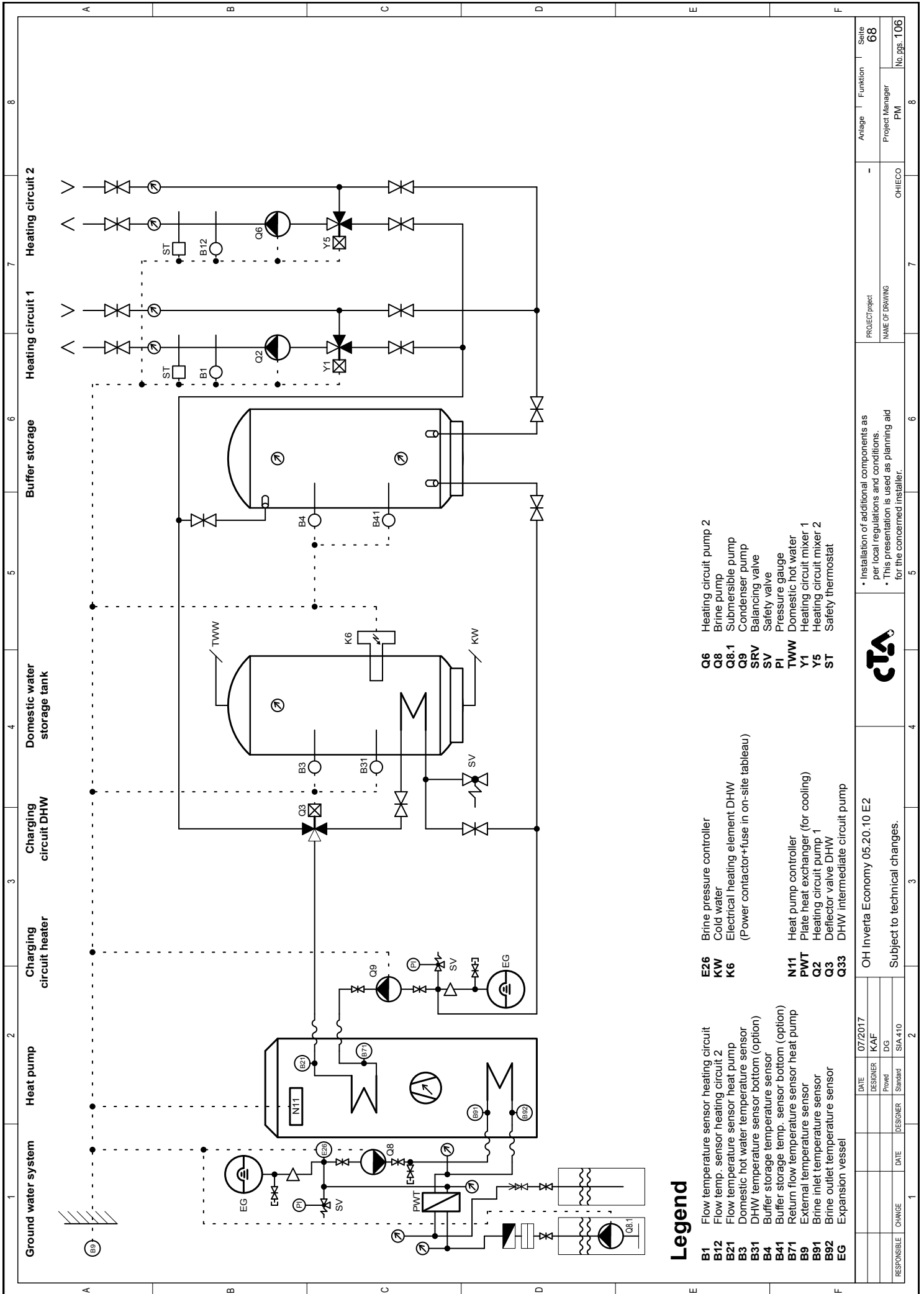


Legend

- B1** Flow temperature sensor heating circuit
- B2** 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
- EG** Expansion vessel
- E26** Brine pressure controller
- Q8.1** Submersible pump
- Q9** Condenser pump
- Q15** Heating circuit pump
- SRV** Balancing valve
- SV** Safety valve
- PI** Pressure gauge
- TWW** Domestic hot water
- Y1** Heating circuit mixer 1
- ST** Safety thermostat
- KW** Cold water
- K6** Electrical heating element DHW (Power contactor+fuse in on-site tableau)
- N11** Heat pump controller
- PWT** Plate heat exchanger (for cooling)
- Q2** Heating circuit pump 1
- Q3** Deflector valve DHW
- Q6** Heating circuit pump 2
- Q8** Brine pump

DATE	07/2017	OH Inverta Economy 05.20.10 E1 E8		Anlage	Funktion	Seite
DESIGNER	KAF	Subject to technical changes.		Project Manager	PM	67
Plowed	DC			OHIECO		
DESIGNER	Standard			PROJECT/Project		
DATE				NAME OF DRAWING		
CHANGE						
1	2	3	4	5	6	7
1	2	3	4	5	6	7
1	2	3	4	5	6	7
1	2	3	4	5	6	7
1	2	3	4	5	6	7
1	2	3	4	5	6	7
1	2	3	4	5	6	7

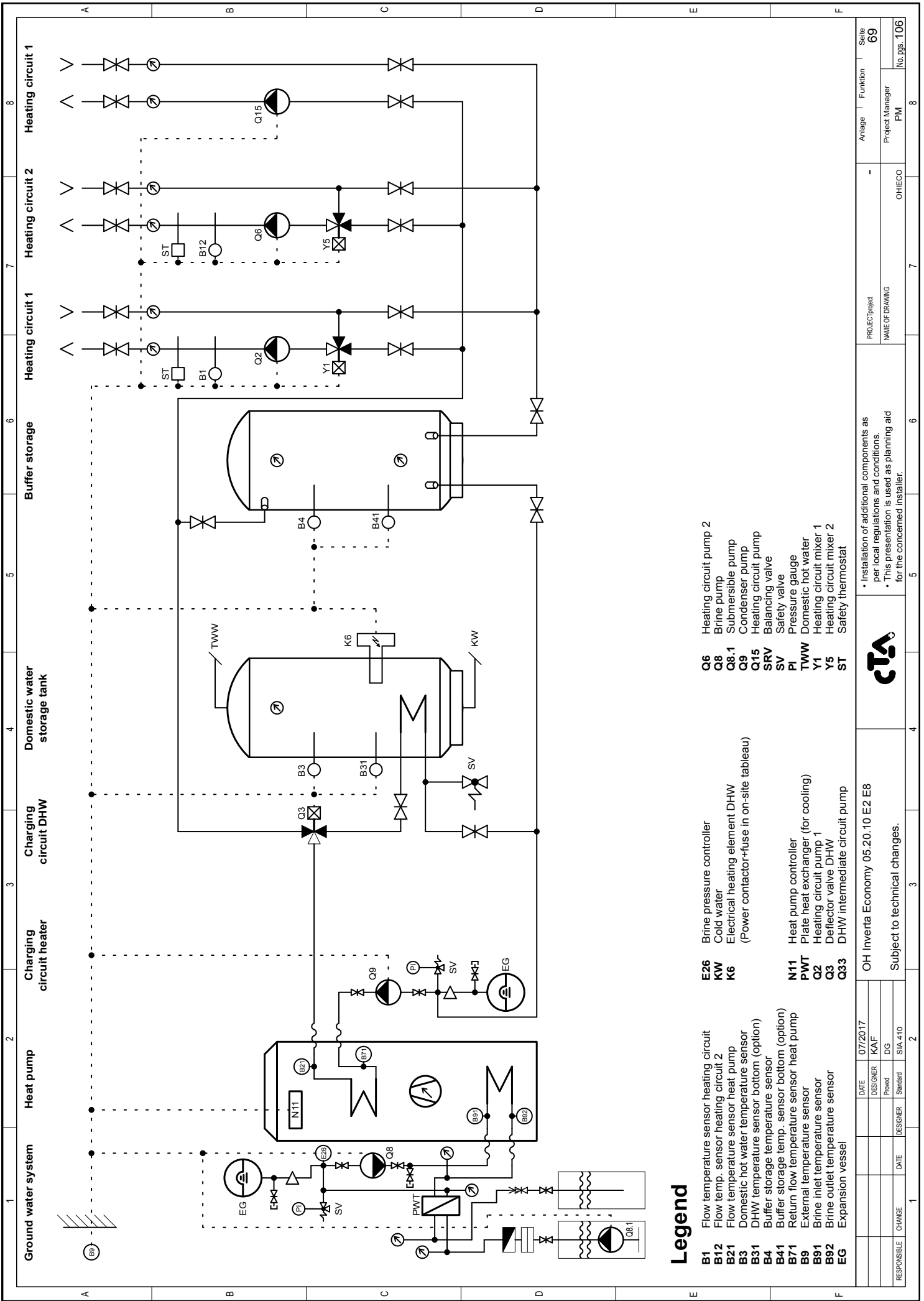




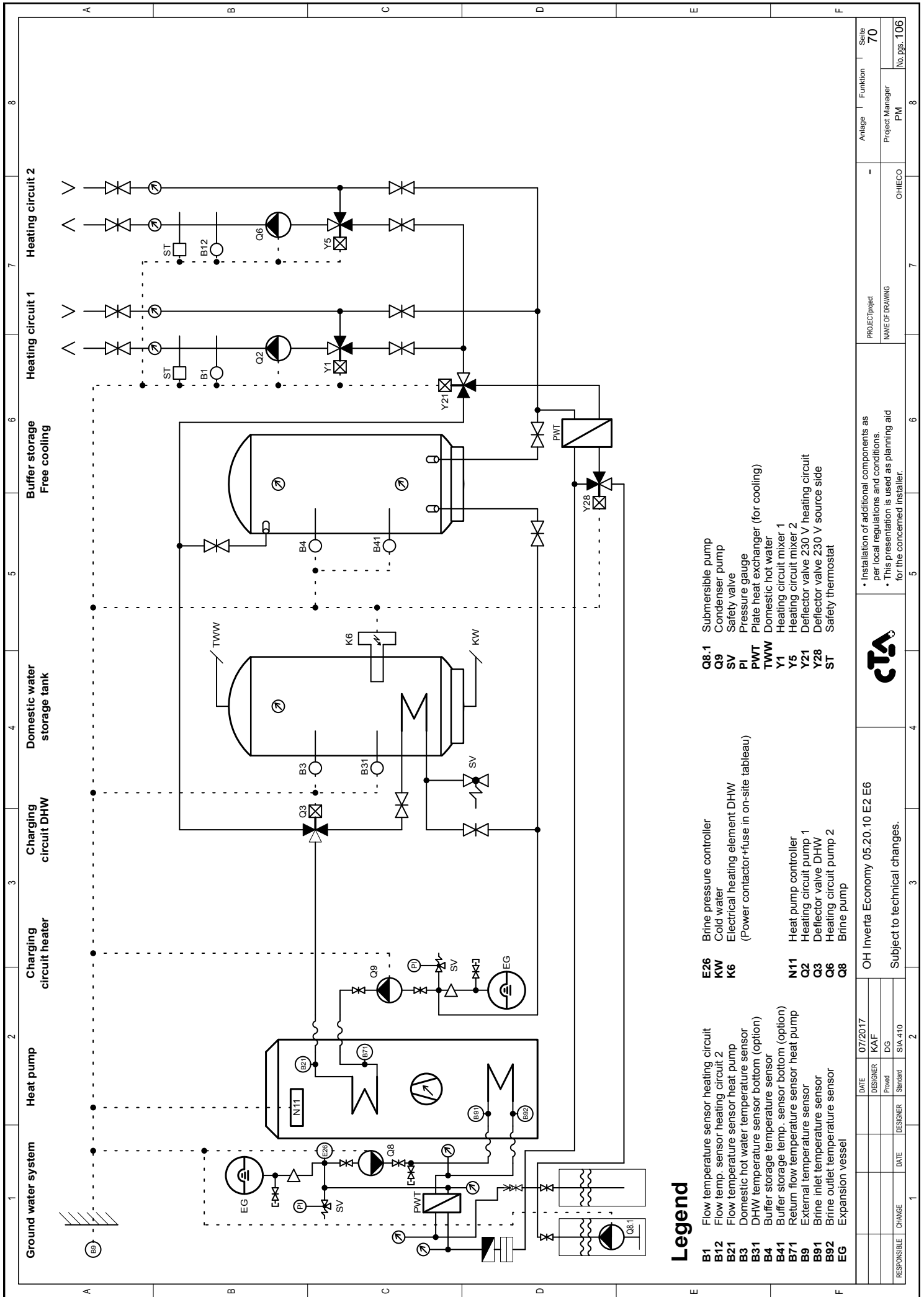
Legend

- | | | | | | |
|------------|---|------------|---|-------------|-------------------------|
| B1 | Flow temperature sensor heating circuit | E26 | Brine pressure controller | Q6 | Heating circuit pump 2 |
| B12 | Flow temp. sensor heating circuit 2 | KW | Cold water | Q8 | Brine pump |
| B21 | Flow temperature sensor heat pump | K6 | Electrical heating element DHW
(Power contactor+fuse in on-site tableau) | Q8.1 | Submersible pump |
| B3 | Domestic hot water temperature sensor | | | Q9 | Condenser pump |
| B31 | DHW temperature sensor bottom (option) | | | SRV | Balancing valve |
| B4 | Buffer storage temperature sensor | | | SV | Safety valve |
| B41 | Buffer storage temp. sensor bottom (option) | | | PI | Pressure gauge |
| B71 | Return flow temperature sensor heat pump | | | TWW | Domestic hot water |
| B9 | External temperature sensor | N11 | Heat pump controller | Y1 | Heating circuit mixer 1 |
| B91 | Brine inlet temperature sensor | PWT | Plate heat exchanger (for cooling) | Y5 | Heating circuit mixer 2 |
| B92 | Brine outlet temperature sensor | Q2 | Heating circuit pump 1 | ST | Safety thermostat |
| EG | Expansion vessel | Q33 | DHW intermediate circuit pump | | |

RESPONSIBLE		CHANGE	DATE	DESIGNER	Standard	SIA 410	2	Subject to technical changes.		OH Inverta Economy 05.20.10 E2				<ul style="list-style-type: none"> Installation of additional components as per local regulations and conditions. This presentation is used as planning aid for the concerned installer. 		PROJECT/project	OH/IECO	Project Manager	PM	Anlage	Funktion	Seite	68



PROJECT/project		Anlage / Funktion		Seite	69
NAME OF DRAWING		Project Manager	PM		
OHIECO					
RESPONSIBLE		CHANGE	DATE	DESIGNER	Standard
				DESIGNER	SIA 410
				Powid	DG
				DATE	07/2017
				DESIGNER	KAF

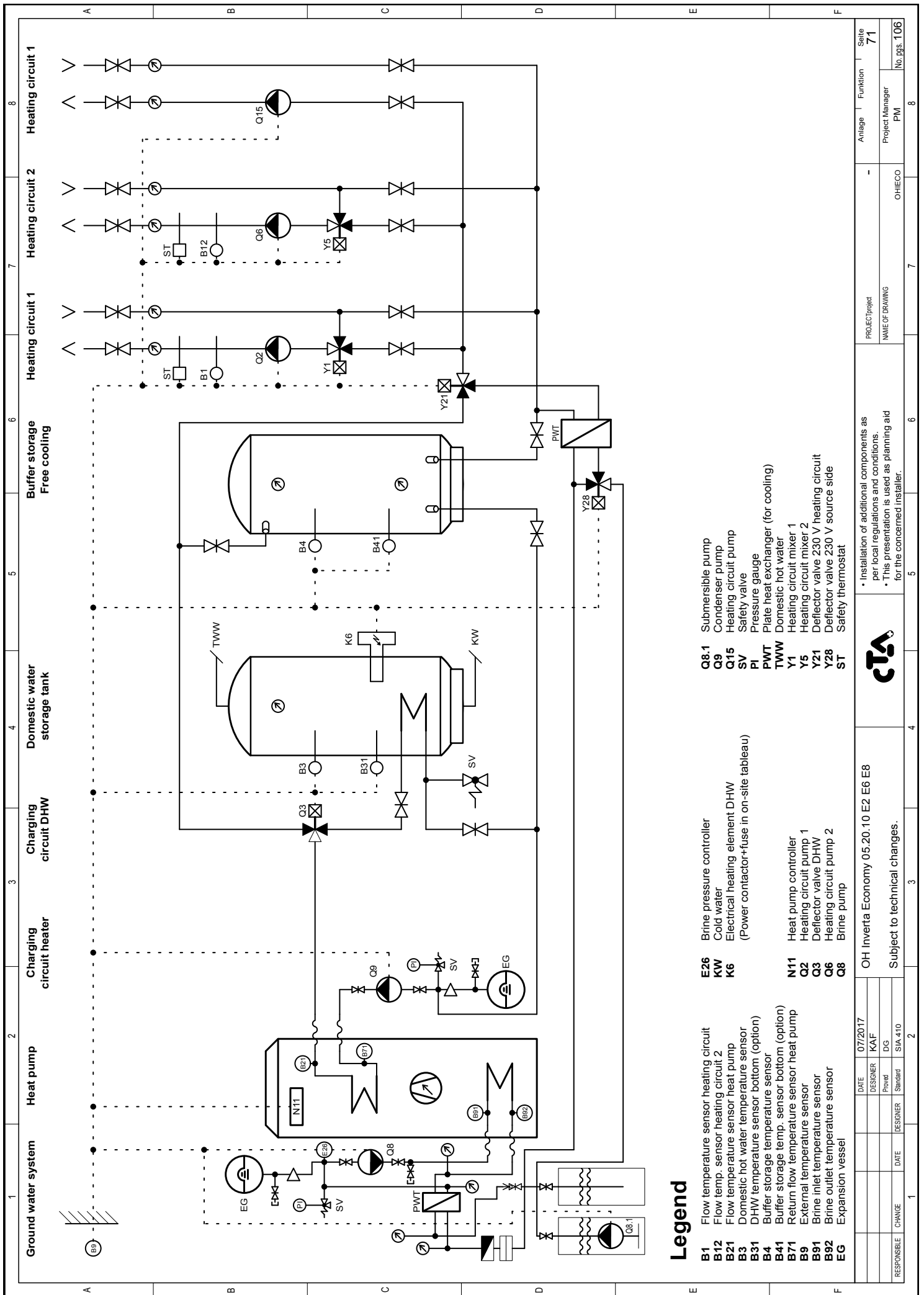


Legend

- | | | | | | |
|------------|---|------------|---|-------------|---------------------------------------|
| B1 | Flow temperature sensor heating circuit | E26 | Brine pressure controller | Q8.1 | Submersible pump |
| B12 | Flow temp. sensor heating circuit 2 | KW | Cold water | Q9 | Condenser pump |
| B21 | Flow temperature sensor heat pump | K6 | Electrical heating element DHW
(Power contactor+fuse in on-site tableau) | SV | Safety valve |
| B3 | Domestic hot water temperature sensor | N11 | Heat pump controller | PI | Pressure gauge |
| B31 | DHW temperature sensor bottom (option) | Q2 | Heating circuit pump 1 | PWT | Plate heat exchanger (for cooling) |
| B4 | Buffer storage temperature sensor | Q3 | Deflector valve DHW | TWW | Domestic hot water |
| B41 | Buffer storage temp. sensor bottom (option) | Q6 | Heating circuit p pump 2 | Y1 | Heating circuit mixer 1 |
| B71 | Return flow temperature sensor heat pump | Q8 | Brine pump | Y5 | Heating circuit mixer 2 |
| B9 | External temperature sensor | | | Y21 | Deflector valve 230 V heating circuit |
| B91 | Brine inlet temperature sensor | | | Y28 | Deflector valve 230 V source side |
| B92 | Brine outlet temperature sensor | | | ST | Safety thermostat |
| EG | Expansion vessel | | | | |

DATE		07/2017	OH Inverta Economy 05.20.10 E2 E6		PROJECT/project		Anlage	Funktion	Seite
DESIGNER	KAF				NAME OF DRAWING		OHIECO	PM	70
Power	DG								
DESIGNER	Standard	SIA 410	Subject to technical changes.						
CHANGE	DATE	DESIGNER	DATE	DESIGNER	Standard	SIA 410			
									No. pgs. 106
									8





Legend

- B1** Flow temperature sensor heating circuit
- 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
- 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
- E26** Brine pressure controller
- KW** Cold water
- K6** Electrical heating element DHW (Power contactor+fuse in on-site tableau)
- N11** Heat pump controller
- Q2** Heating circuit pump 1
- Q3** Deflector valve DHW
- Q6** Heating circuit pump 2
- Q8** Brine pump
- Q8.1** Submersible pump
- Q9** Condenser pump
- Q15** Heating circuit pump
- SV** Safety valve
- PI** Pressure gauge
- PWT** Plate heat exchanger (for cooling)
- TWW** Domestic hot water
- Y1** Heating circuit mixer 1
- Y5** Heating circuit mixer 2
- Y21** Deflector valve 230 V heating circuit
- Y28** Deflector valve 230 V source side
- ST** Safety thermostat

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



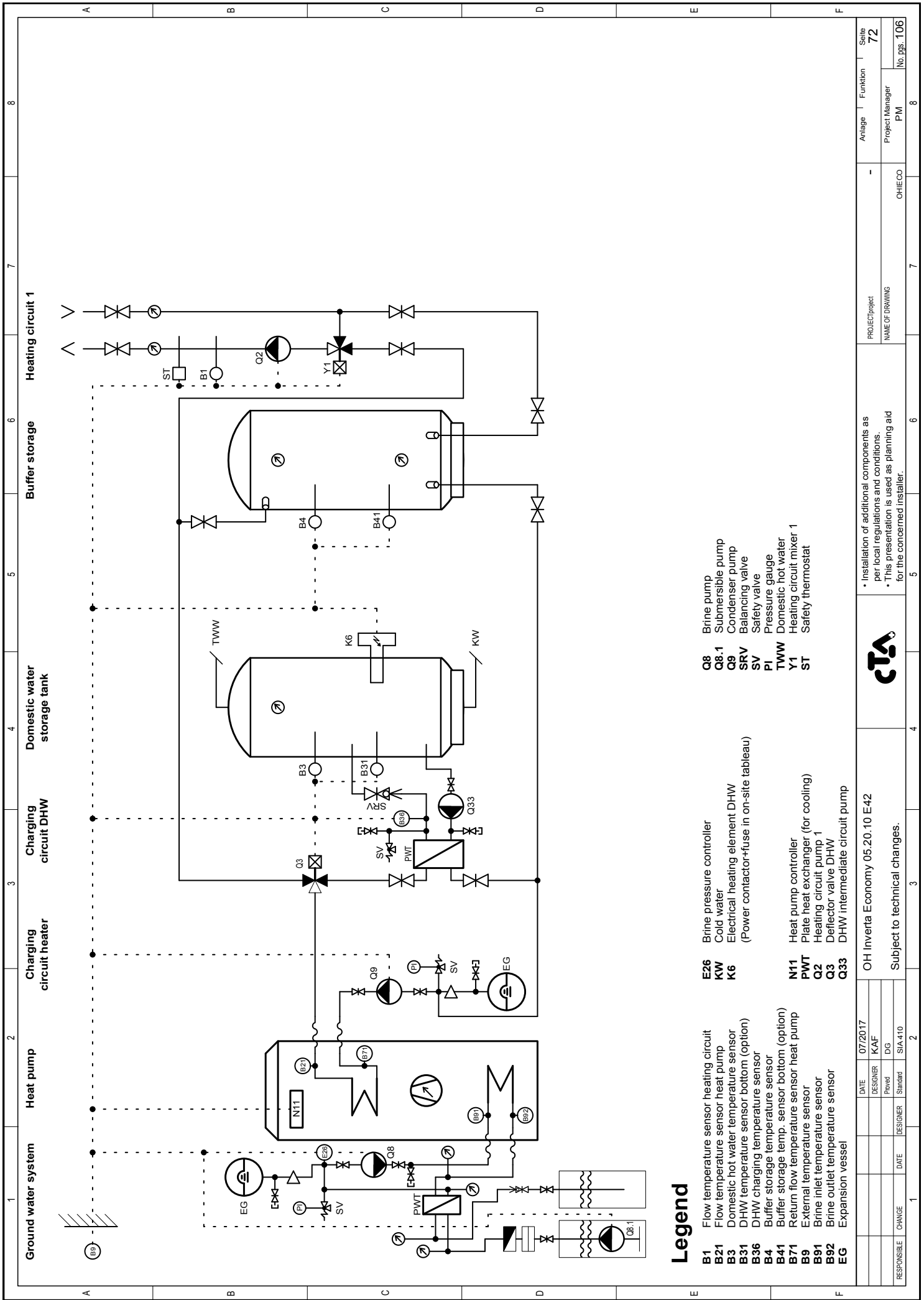
OH Inverta Economy 05.20.10 E2 E6 E8
Subject to technical changes.

RESPONSIBLE	CHANGE	DATE	DESIGNER	DATE	DESIGNER	DATE	DESIGNER
			Provod		Standart		SIA 410
			KAF		KAF		

PROJECT/project
NAME OF DRAWING

Anlage | Funktion
Project Manager | PM

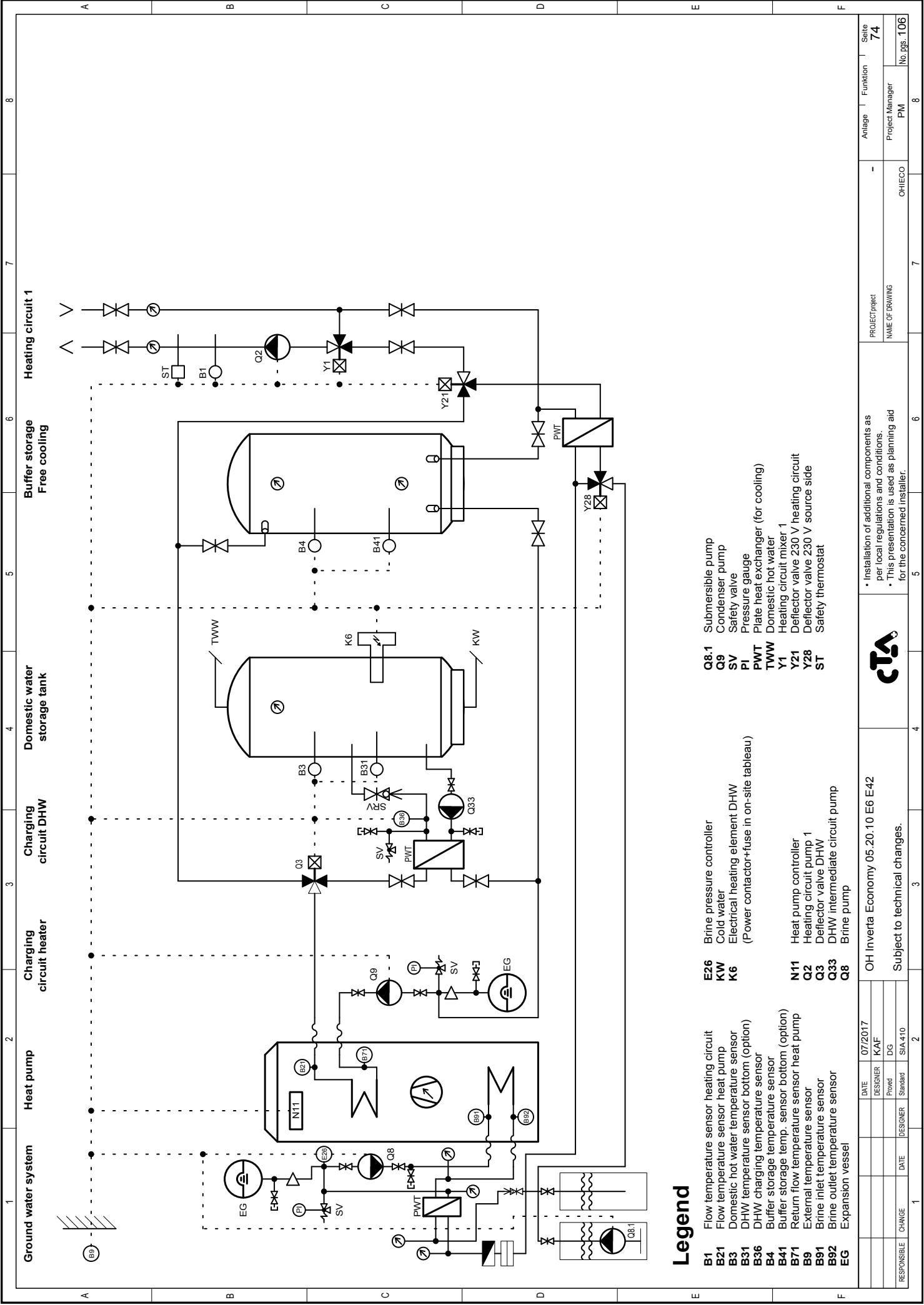
Seite
71
No. Pgs. 106



Legend

- B1** Flow temperature sensor heating circuit
- B2** 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
- EG** Expansion vessel
- E26** Brine pressure controller
- KW** Cold water
- K6** Electrical heating element DHW (Power contactor+fuse in on-site tableau)
- N11** Heat pump controller
- PWT** Plate heat exchanger (for cooling)
- Q2** Heating circuit pump 1
- Q3** Deflector valve DHW
- Q33** DHW intermediate circuit pump
- Q8** Brine pump
- Q8.1** Submersible pump
- Q9** Condenser pump
- SRV** Balancing valve
- SV** Safety valve
- PI** Pressure gauge
- TWW** Domestic hot water
- Y1** Heating circuit mixer 1
- ST** Safety thermostat

DATE		07/2017	OH Inverta Economy 05.20.10 E-42	PROJECT/project		-	Anlage	Funktion	Seite
DESIGNER	KAF			NAME OF DRAWING			Project Manager	PM	72
PROVED	DG		Subject to technical changes.	OH/ECCO					
DESIGNER	Standard	SIA-410							
CHANGE									

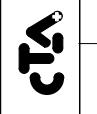


Legend

- B1 Flow temperature sensor heating circuit
- 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
- EG Expansion vessel
- E26 Brine pressure controller
- KW Cold water
- K6 Electrical heating element DHW (Power contactor+fuse in on-site tableau)
- N11 Heat pump controller
- Q2 Heating circuit pump 1
- Q3 Deflector valve DHW
- Q33 DHW intermediate circuit pump
- Q8 Brine pump
- Q8.1 Submersible pump
- Q9 Condenser pump
- QV Safety valve
- PI Pressure gauge
- PWT Plate heat exchanger (for cooling)
- TWW Domestic hot water
- Y1 Heating circuit mixer 1
- Y21 Deflector valve 230 V heating circuit
- Y28 Deflector valve 230 V source side
- ST Safety thermostat

RESPONSIBLE	CHANGE	DATE	DESIGNER	Standard	SIA 410
			DESIGNER	Standard	SIA 410

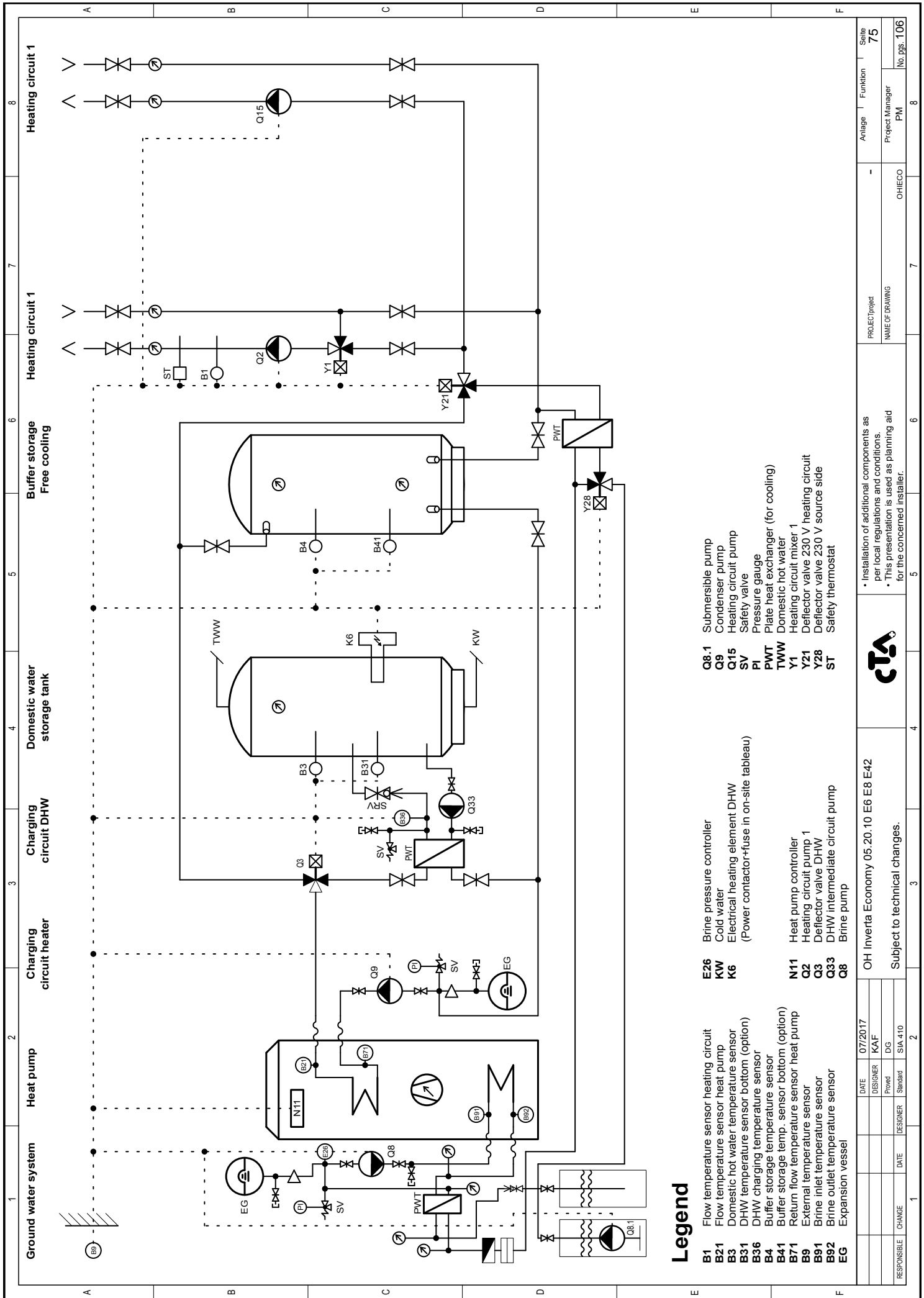
OH Inverta Economy 05.20.10 E6 E42
Subject to technical changes.



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

PROJECT/project	Anlage	Funktion	Seite
NAME OF DRAWING	OH/IECO	PM	74

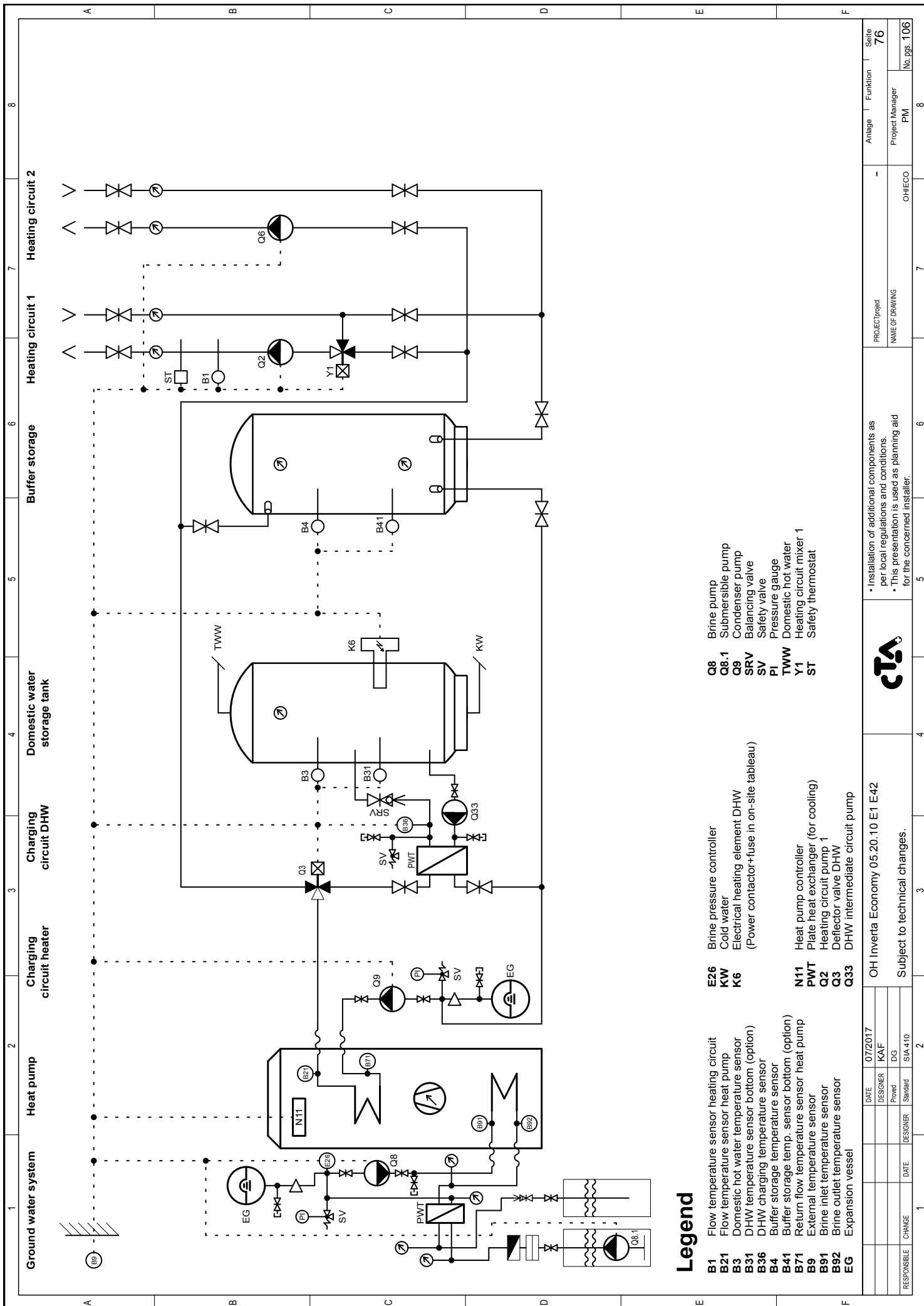
PROJECT/project	Anlage	Funktion	Seite
NAME OF DRAWING	OH/IECO	PM	74



Legend

- | | | | |
|------------|---|-------------|---------------------------------------|
| B1 | Flow temperature sensor heating circuit | Q8.1 | Submersible pump |
| B21 | Flow temperature sensor heat pump | Q9 | Condenser pump |
| B3 | Domestic hot water temperature sensor | Q15 | Heating circuit pump |
| B31 | DHW temperature sensor bottom (option) | SV | Safety valve |
| B36 | DHW charging temperature sensor | PI | Pressure gauge |
| B4 | Buffer storage temperature sensor | PWT | Plate heat exchanger (for cooling) |
| B41 | Buffer storage temp. sensor bottom (option) | TWW | Domestic hot water |
| B71 | Return flow temperature sensor heat pump | Y1 | Heating circuit mixer 1 |
| B9 | External temperature sensor | Y21 | Deflector valve 230 V heating circuit |
| B91 | Brine inlet temperature sensor | Y28 | Deflector valve 230 V source side |
| B92 | Brine outlet temperature sensor | ST | Safety thermostat |
| EG | Expansion vessel | | |

DATE		07/2017	OH Inverta Economy 05.20.10 E6 E8 E42		PROJECT/Projekt		-	Anlage		Funktion	Seite	75
DESIGNER		KAF	Subject to technical changes.		NAME OF DRAWING		OHIECO	Project Manager		PM	No. pgs. 106	
PROVID		DG										
DESIGNER		Standard										
DATE		SIA 410										
CHANGE												

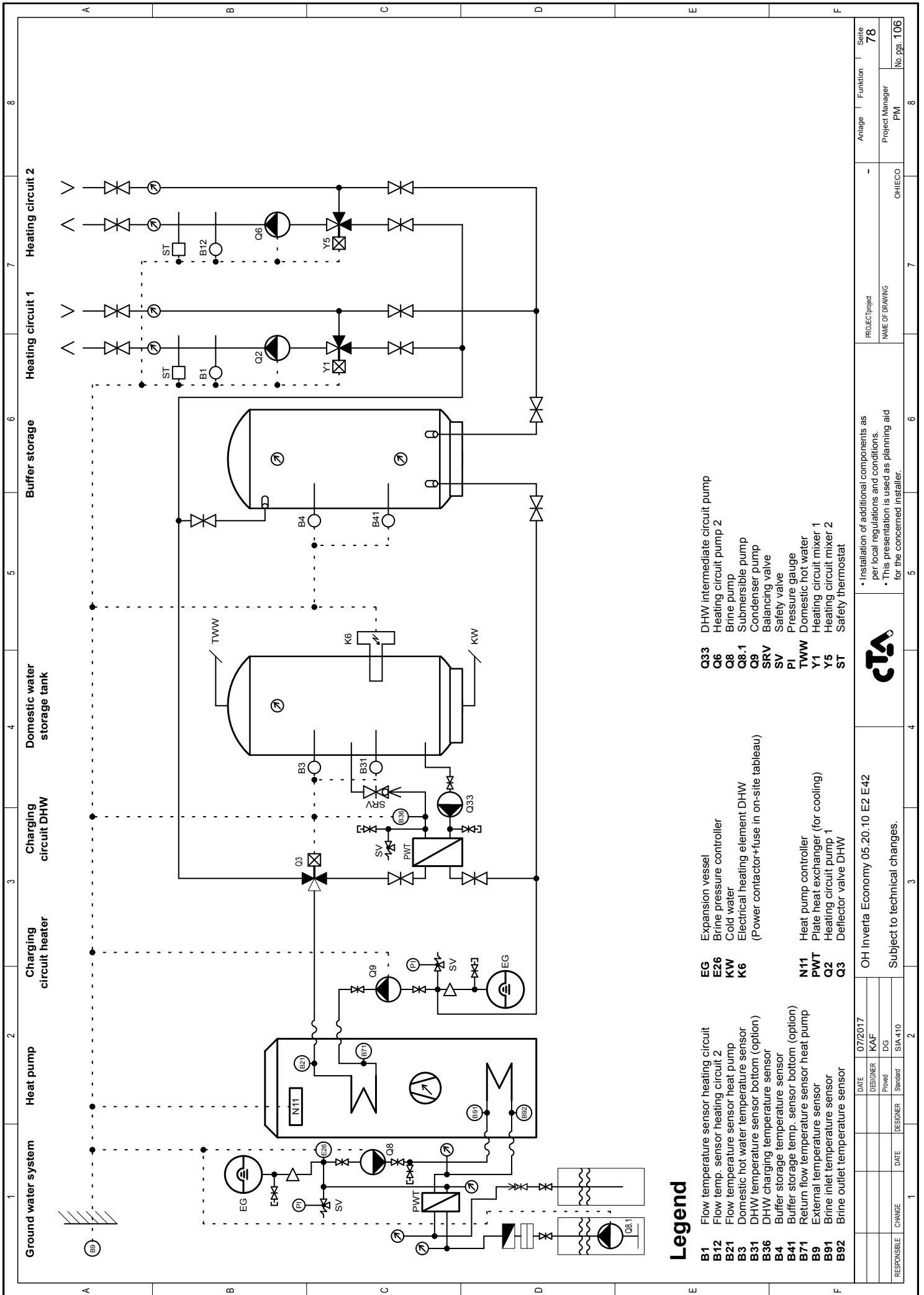


Legend

- B1** Flow temperature sensor heating circuit
- 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
- EG** Expansion vessel
- E26** Brine pressure controller
- KW** Cold water
- K6** Electrical heating element DHW (Power contactor+fuse in on-site tableau)
- N11** Heat pump controller
- PWT** Plate heat exchanger (for cooling)
- Q2** Heating circuit pump 1
- Q3** Deflector valve DHW
- Q33** DHW intermediate circuit pump
- Q8** Brine pump
- Q8.1** Submersible pump
- Q9** Condenser pump
- SRV** Balancing valve
- SV** Safety valve
- PI** Pressure gauge
- TWW** Domestic hot water
- Y1** Heating circuit mixer 1
- ST** Safety thermostat

RESPONSIBLE	CHANGE	DATE	DESIGNER	Standard	SAIA 410	2
			Provod	DG		
		07/2017	DESIGNER	KAF		
OH Inverta Economy 05.20.10 E1 E42						3
Subject to technical changes.						4
Installation of additional components as per local regulations and conditions.						5
This presentation is used as planning aid for the concerned installer.						6
PROJECT/project						7
NAME OF DRAWING						8
Project Manager						
PM						
Anlage						
Funktion						
Seite						76
No. pgs.						106

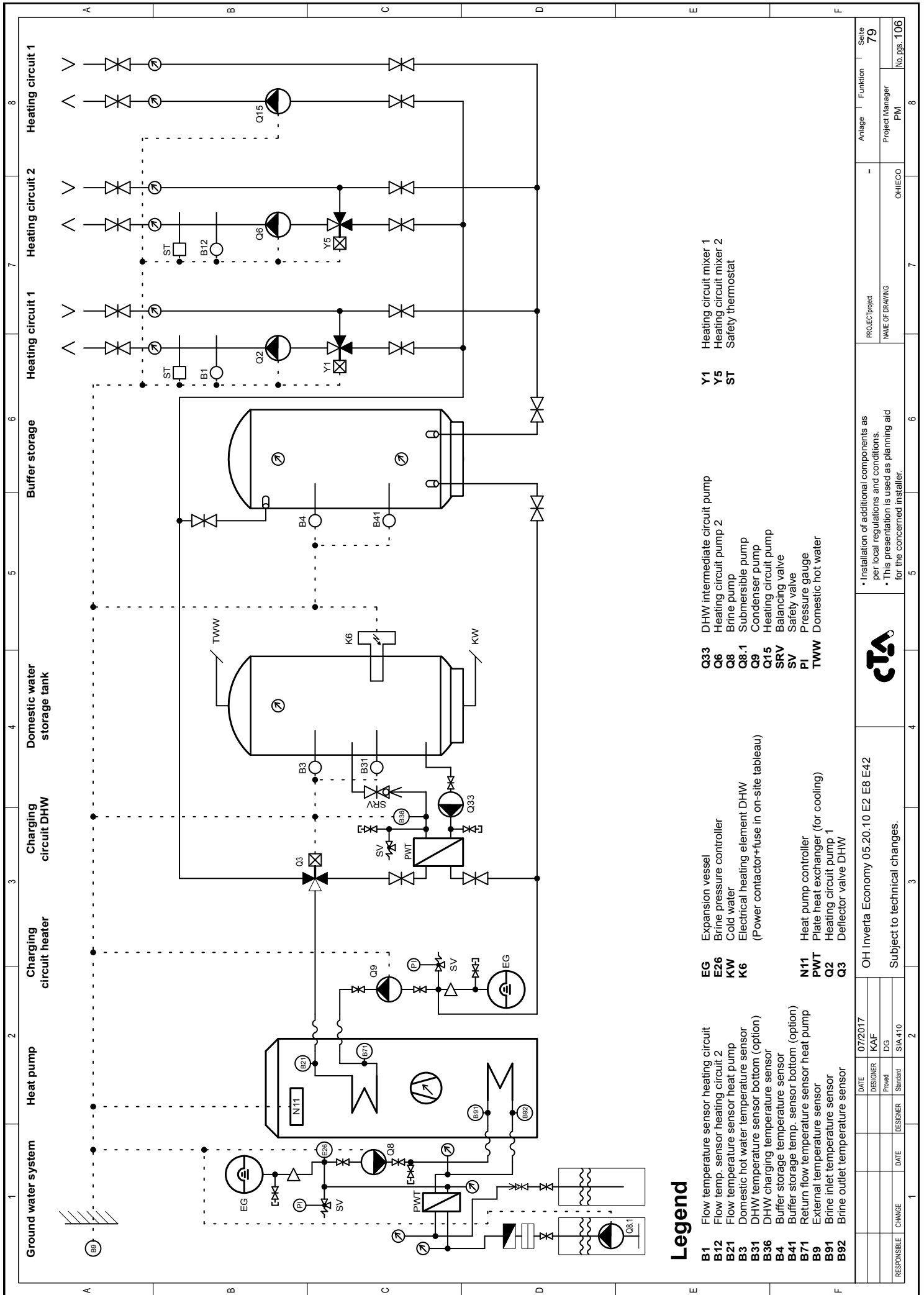




Legend

- | | | |
|--|---|--|
| B1 Flow temperature sensor heating circuit | EG Expansion vessel | Q33 DHW intermediate circuit pump |
| B12 Flow temp. sensor heating circuit 2 | E26 Brine pressure controller | Q6 Heating circuit pump 2 |
| B21 Flow temperature sensor heat pump | KW Cold water | Q8 Brine pump |
| B3 Domestic hot water temperature sensor | K6 Electrical heating element DHW
(Power contactor+fuse in on-site tableau) | Q8.1 Submersible pump |
| B31 DHW temperature sensor bottom (option) | | Q9 Condenser pump |
| B36 DHW charging temperature sensor | | SRV Balancing valve |
| B4 Buffer storage temperature sensor | | SV Safety valve |
| B41 Buffer storage temp. sensor bottom (option) | | PI Pressure gauge |
| B71 Return flow temperature sensor heat pump | | TWW Domestic hot water |
| B9 External temperature sensor | N11 Heat pump controller | Y1 Heating circuit mixer 1 |
| B91 Brine inlet temperature sensor | PWT Plate heat exchanger (for cooling) | Y2 Heating circuit mixer 2 |
| B92 Brine outlet temperature sensor | Q3 Deflector valve DHW | ST Safety thermostat |

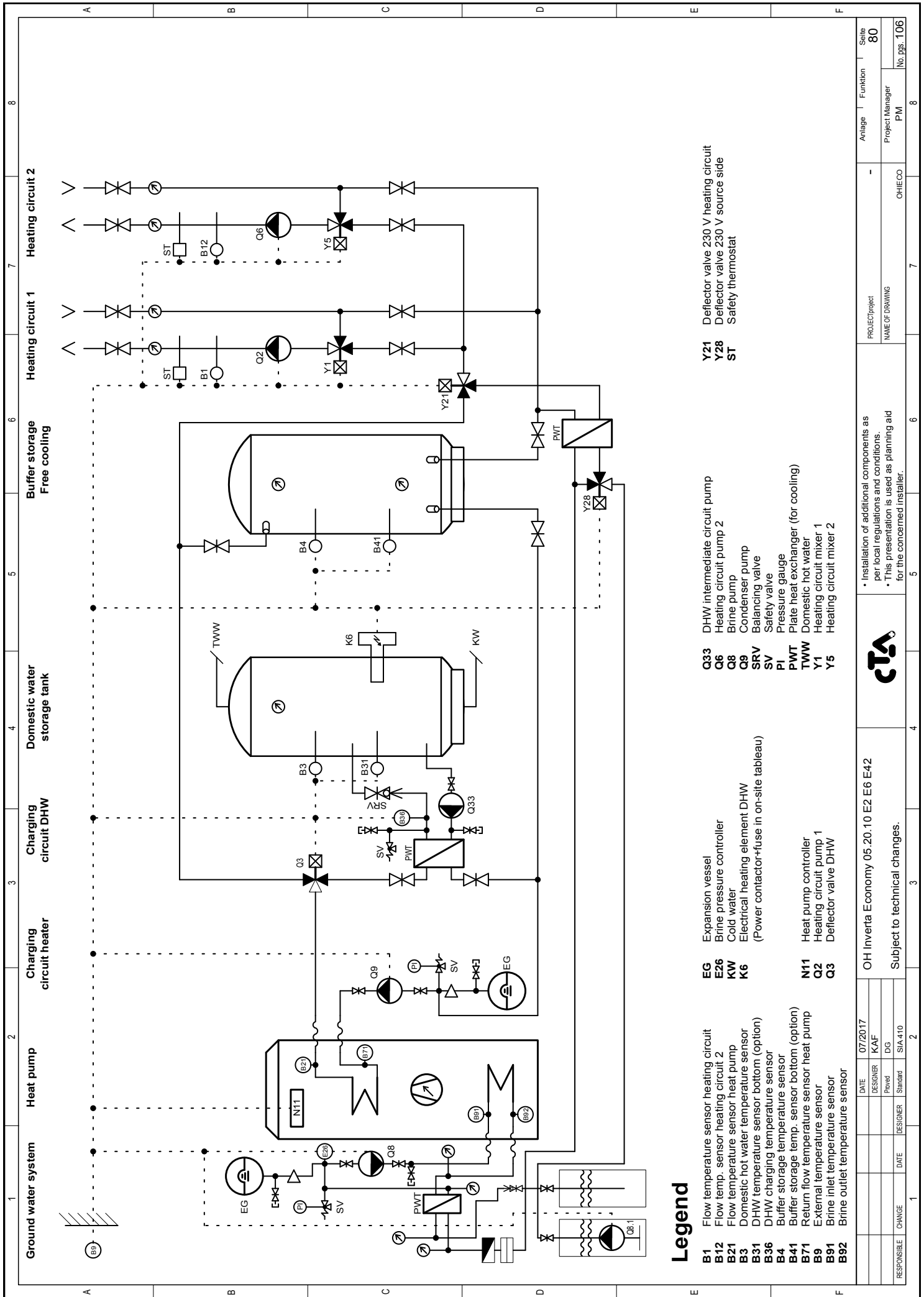
DATE		07/2017	OH Inverta Economy 05.20.10 E2 E42		PROJECT/Project		Anlage	Funktion	Seite
DESIGNER	KAF		Subject to technical changes.		NAME OF DRAWING		Project Manager	PM	78
REVISION	CHANGE	DATE	DESIGNER	Standard	SIA 410	OH/ECO			No. pgs. 106
									8



Legend

- | | | | |
|--|---|--|-----------------------------------|
| B1 Flow temperature sensor heating circuit | EG Expansion vessel | Q33 DHW intermediate circuit pump | Y1 Heating circuit mixer 1 |
| B12 Flow temp. sensor heating circuit 2 | E26 Brine pressure controller | Q6 Heating circuit pump 2 | Y5 Heating circuit mixer 2 |
| B21 Flow temperature sensor heat pump | KW Cold water | Q8 Brine pump | ST Safety thermostat |
| B3 Domestic hot water temperature sensor | K6 Electrical heating element DHW
(Power contactor+fuse in on-site tableau) | Q8.1 Submersible pump | |
| B31 DHW temperature sensor bottom (option) | | Q9 Condenser pump | |
| B36 DHW charging temperature sensor | | Q15 Heating circuit pump | |
| B4 Buffer storage temperature sensor | | SRV Balancing valve | |
| B41 Buffer storage temp. sensor bottom (option) | | SV Safety valve | |
| B71 Return flow temperature sensor heat pump | | PI Pressure gauge | |
| B9 External temperature sensor | N11 Heat pump controller | TWW Domestic hot water | |
| B91 Brine inlet temperature sensor | PWT Plate heat exchanger (for cooling) | | |
| B92 Brine outlet temperature sensor | Q2 Heating circuit pump 1 | | |

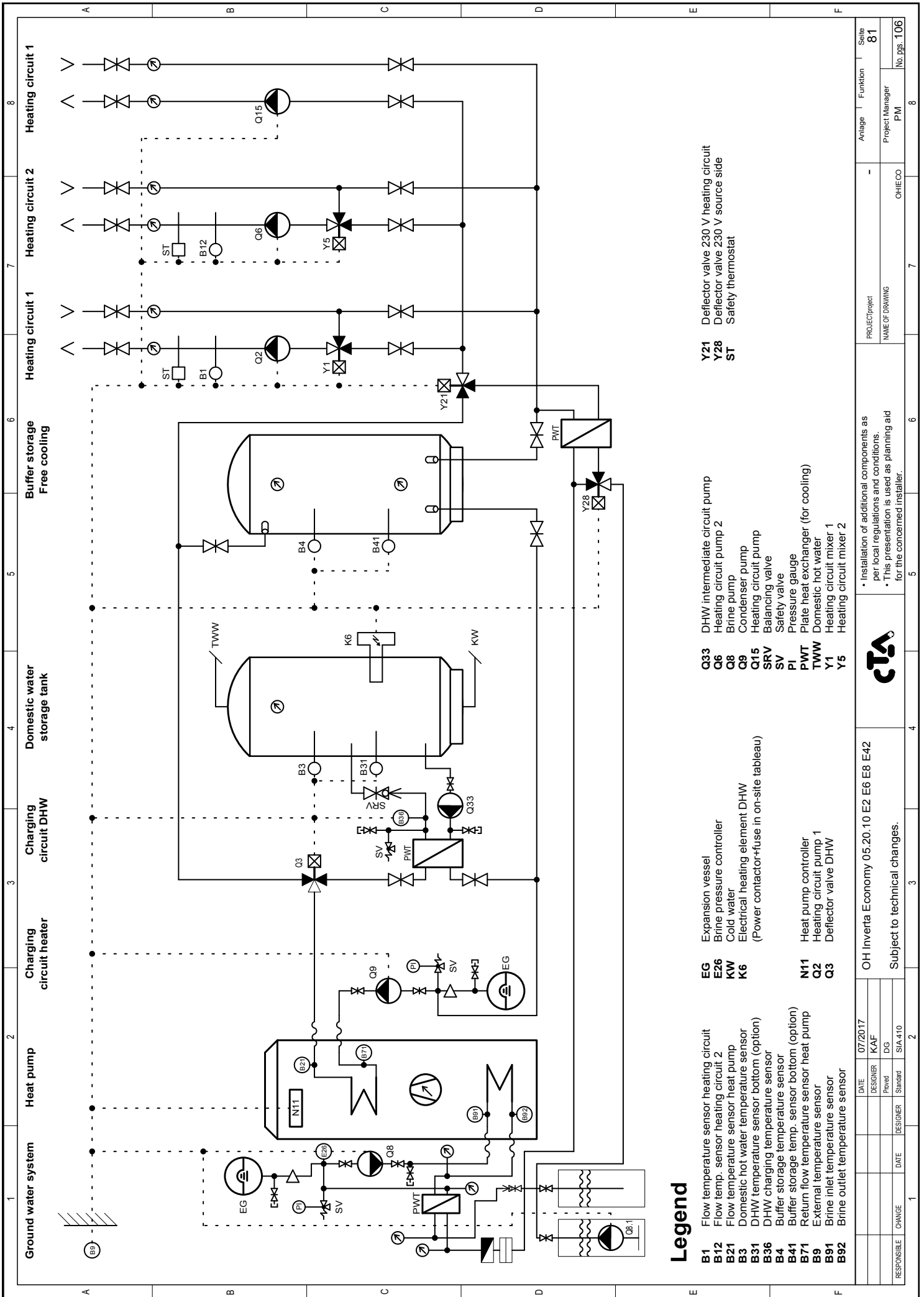
DATE	07/2017	OH Inverta Economy 05.20.10 E2 E8 E42	OHIECO	Project Manager	PM	Seite	79
DESIGNER	KAF	Subject to technical changes.		NAME OF DRAWING		No. pgs.	106
Plowed	DG						
DESIGNER	Shward						
DATE	SIA-410						



Legend

- | | | | | | |
|------------|---|------------|------------------------------------|------------|---------------------------------------|
| B1 | Flow temperature sensor heating circuit | Q33 | DHW intermediate circuit pump | Y21 | Deflector valve 230 V heating circuit |
| B12 | Flow temp. sensor heating circuit 2 | Q6 | Heating circuit pump 2 | Y28 | Deflector valve 230 V source side |
| B21 | Flow temperature sensor heat pump | Q8 | Brine pump | ST | Safety thermostat |
| B3 | Domestic hot water temperature sensor | Q9 | Condenser pump | | |
| B31 | DHW temperature sensor bottom (option) | SRV | Balancing valve | | |
| B36 | DHW charging temperature sensor | SV | Safety valve | | |
| B4 | Buffer storage temperature sensor | PI | Pressure gauge | | |
| B41 | Buffer storage temp. sensor bottom (option) | PWT | Plate heat exchanger (for cooling) | | |
| B71 | Return flow temperature sensor heat pump | TWW | Domestic hot water | | |
| B9 | External temperature sensor | Y1 | Heating circuit mixer 1 | | |
| B91 | Brine inlet temperature sensor | Y5 | Heating circuit mixer 2 | | |
| B92 | Brine outlet temperature sensor | | | | |

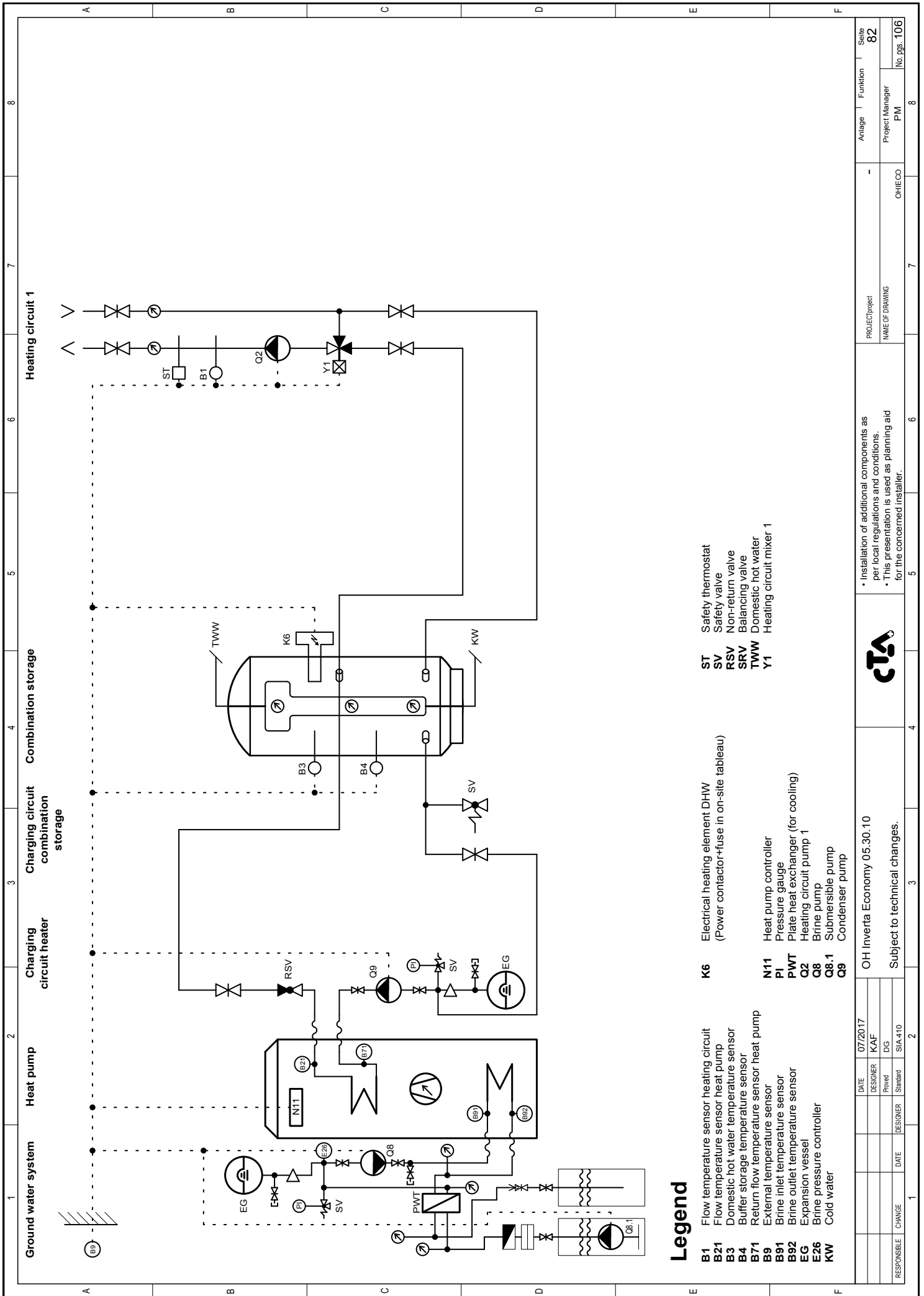
DATE	07/2017	OH Inverta Economy 05.20.10 E2 E6 E42	PROJECT/project	-	Anlage	Funktion	Seite
DESIGNER	KAF	Subject to technical changes.	NAME OF DRAWING	OHIECO	Project Manager	PM	80
PROVED	DG						
STANDARD	SIA-410						
CHANGE							
RESPONSIBLE							



Legend

- B1** Flow temperature sensor heating circuit
- 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)
- 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
- EG** Expansion vessel
- E26** Brine pressure controller
- KW** Cold water
- K6** Electrical heating element DHW (Power contactor+fuse in on-site tableau)
- N11** Heat pump controller
- Q2** Heating circuit pump 1
- Q3** Deflector valve DHW
- Q33** DHW intermediate circuit pump
- Q6** Heating circuit pump 2
- Q8** Brine pump
- Q9** Condenser pump
- Q15** Heating circuit pump
- SRV** Balancing valve
- SV** Safety valve
- PI** Pressure gauge
- PWT** Plate heat exchanger (for cooling)
- TWW** Domestic hot water
- Y1** Heating circuit mixer 1
- Y5** Heating circuit mixer 2
- Y21** Deflector valve 230 V heating circuit
- Y28** Deflector valve 230 V source side
- ST** Safety thermostat

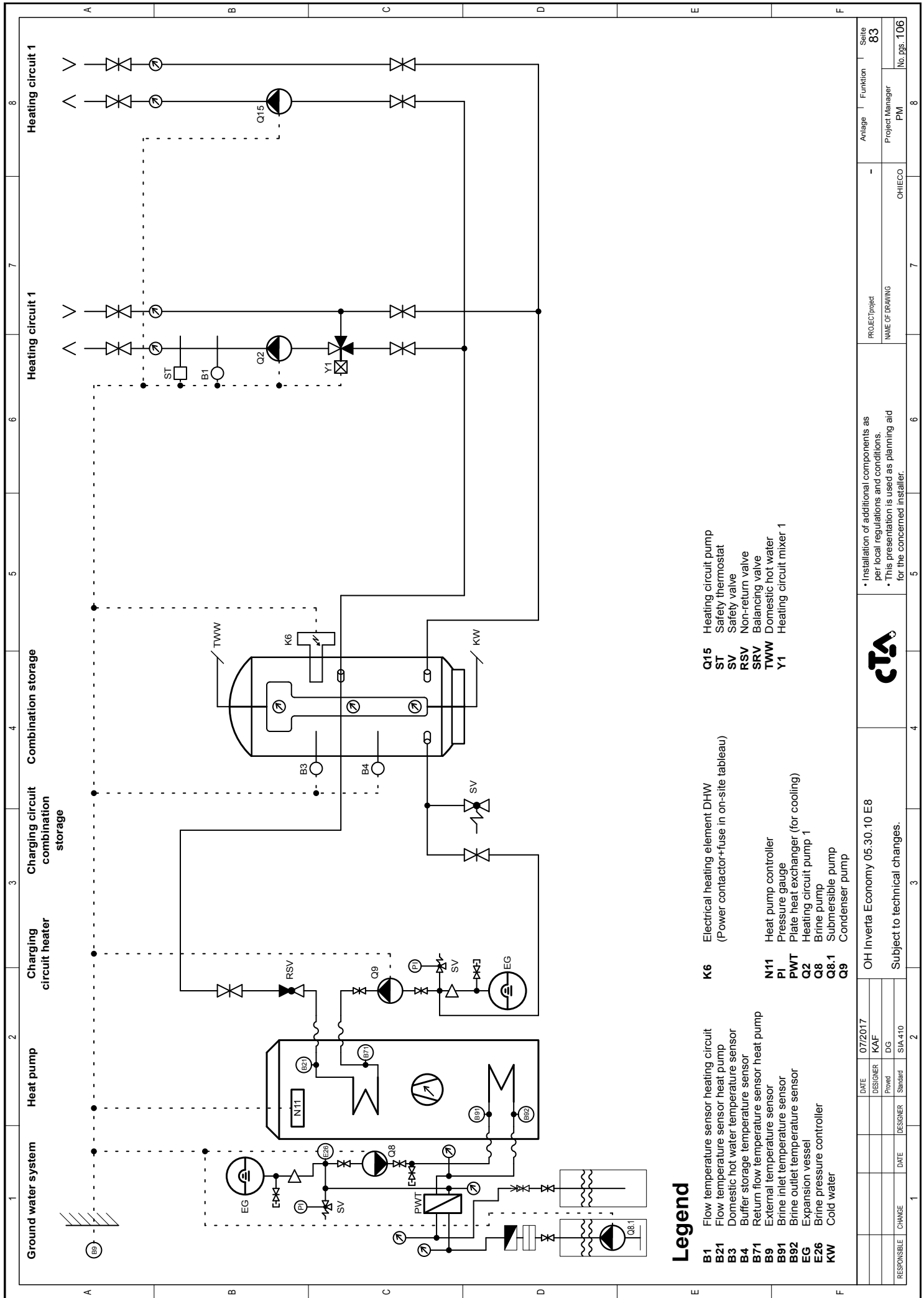
DATE		07/2017	OH Inverta Economy 05.20.10 E2 E6 E8 E42		Anlage		Funktion	Seite
DESIGNER	KAF							81
PROVID	DG						Project Manager	8
DESIGNER	Standard	SIA-410	Subject to technical changes.		OHIECO		PM	
CHANGE	DATE							No. pgs. 106



Legend

- B1** Flow temperature sensor heating circuit
- B21** Flow temperature sensor heat pump
- B3** Domestic hot water temperature sensor
- 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
- EG** Expansion vessel
- E26** Brine pressure controller
- KW** Cold water
- K6** Electrical heating element DHW (Power contactor+fuse in on-site tableau)
- N11** Heat pump controller
- PI** Pressure gauge
- PWT** Plate heat exchanger (for cooling)
- Q2** Heating circuit pump 1
- Q8** Brine pump
- Q8.1** Submersible pump
- Q9** Condenser pump
- RSV** Safety valve
- ST** Safety thermostat
- SV** Safety valve
- SRV** Non-return valve
- SRV** Balancing valve
- TWW** Domestic hot water
- Y1** Heating circuit mixer 1

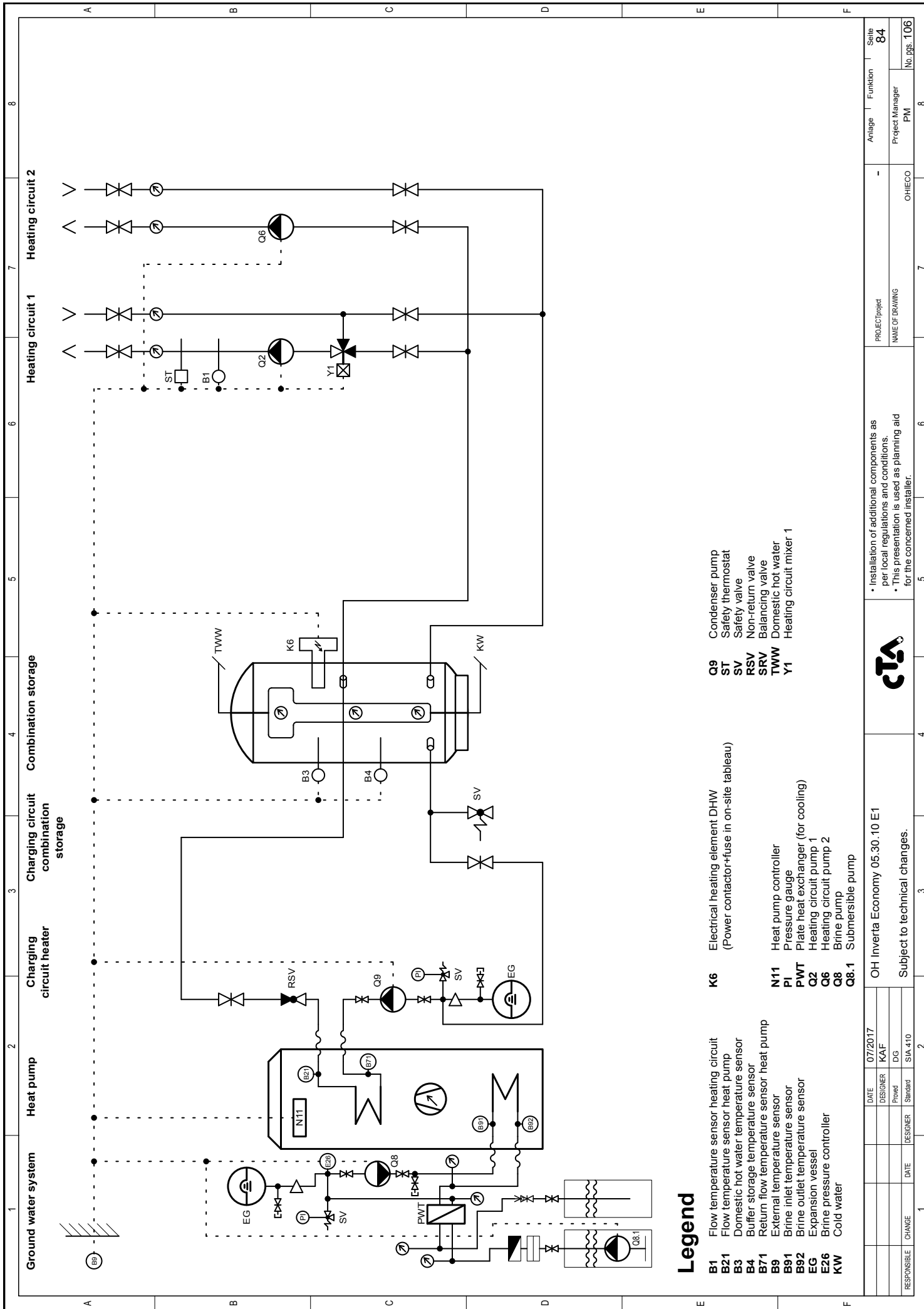
DATE	07/2017	DESIGNER	KAF	OH Inverta Economy 05.30.10	PROJECT/project	Anlage	Funktion	Seite
Approved		Standard	DG	Subject to technical changes.	NAME OF DRAWING	Project Manager		82
CHANGE	DATE	DESIGNER	SIA-410		OH/ECCO	PM		No. pgs. 106



Legend

- | | | |
|---|---|--|
| <p>B1 Flow temperature sensor heating circuit</p> <p>B21 Flow temperature sensor heat pump</p> <p>B3 Domestic hot water temperature sensor</p> <p>B4 Buffer storage temperature sensor</p> <p>B71 Return flow temperature sensor heat pump</p> <p>B9 External temperature sensor</p> <p>B91 Brine inlet temperature sensor</p> <p>B92 Brine outlet temperature sensor</p> <p>EG Expansion vessel</p> <p>E26 Brine pressure controller</p> <p>KW Cold water</p> | <p>K6 Electrical heating element DHW
(Power contactor+fuse in on-site tableau)</p> <p>N11 Heat pump controller</p> <p>PI Pressure gauge</p> <p>PWT Plate heat exchanger (for cooling)</p> <p>Q2 Heating circuit pump 1</p> <p>Q8 Brine pump</p> <p>Q8.1 Submersible pump</p> <p>Q9 Condenser pump</p> | <p>Q15 Heating circuit pump</p> <p>ST Safety thermostat</p> <p>SV Safety valve</p> <p>RSV Non-return valve</p> <p>SRV Balancing valve</p> <p>TWW Domestic hot water</p> <p>Y1 Heating circuit mixer 1</p> |
|---|---|--|

DATE	07/2017	DESIGNER	KAF			Seite 83
Plowed	DG	PROJECT/Project			Project Manager	PM
DESIGNER	Steward	NAME OF DRAWING			OHIECO	No. pgs: 106
RESPONSIBLE CHANGE				OH Inverta Economy 05.30.10 E8		
				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.		
				CTA		



Legend

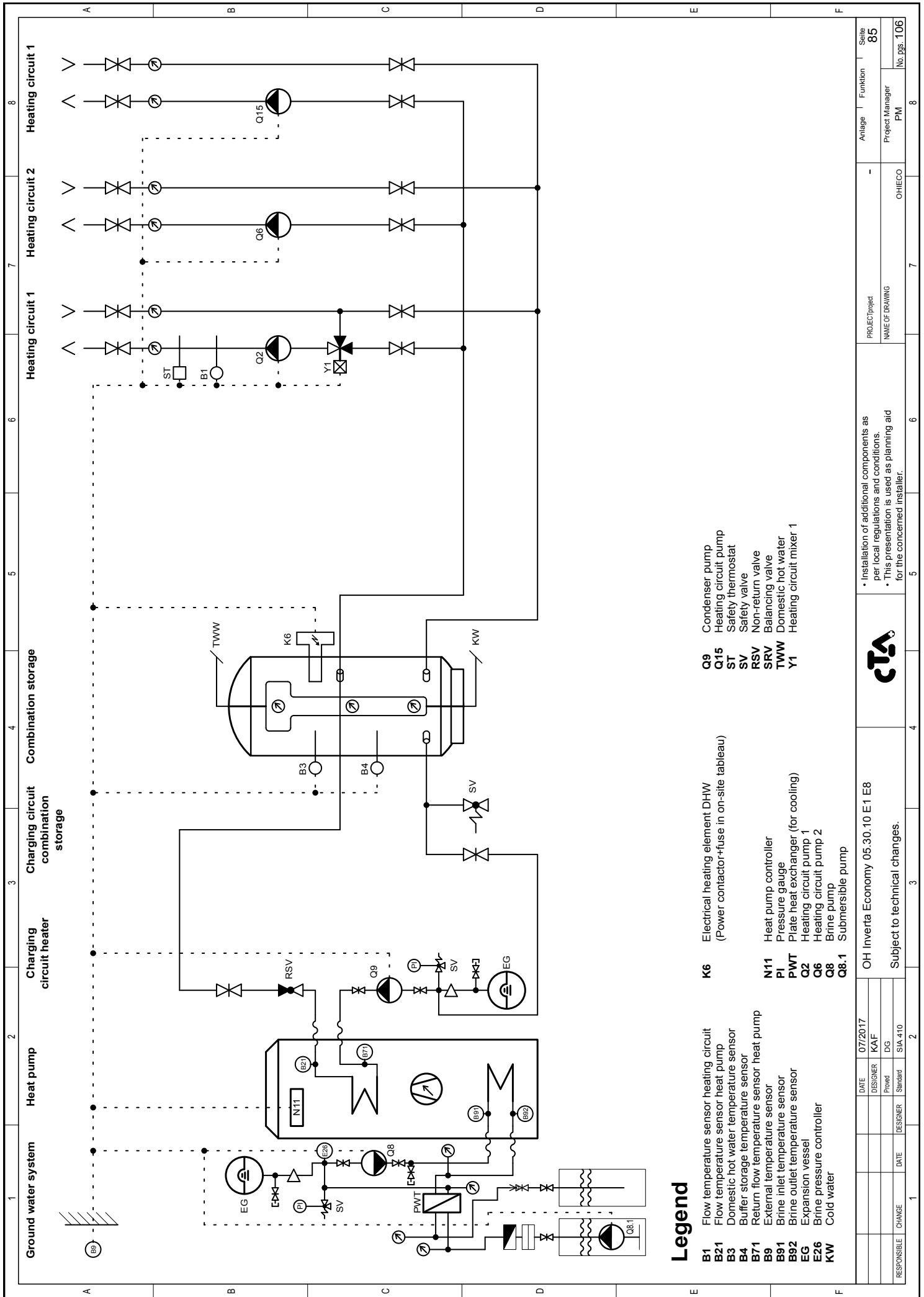
- B1** Flow temperature sensor heating circuit
- B21** Flow temperature sensor heat pump
- B3** Domestic hot water temperature sensor
- B4** Buffer storage temperature sensor
- B71** Return flow temperature sensor heat pump
- B9** External temperature sensor
- B91** Brine inlet temperature sensor
- B92** Brine outlet temperature sensor
- EG** Expansion vessel
- E26** Brine pressure controller
- KW** Cold water
- K6** Electrical heating element DHW (Power contactor+fuse in on-site tableau)
- N11** Heat pump controller
- PI** Pressure gauge
- PWT** Plate heat exchanger (for cooling)
- Q2** Heating circuit pump 1
- Q6** Heating circuit pump 2
- Q8** Brine pump
- Q8.1** Submersible pump
- Q9** Condenser pump
- ST** Safety thermostat
- SV** Safety valve
- RSV** Non-return valve
- SRV** Balancing valve
- TWW** Domestic hot water
- Y1** Heating circuit mixer 1

	DATE	07/2017	DESIGNER	KAF	Anlage	Funktions	Seite
	DESIGNER		DESIGNER				84
	DATE		DESIGNER				
	CHANGE		DESIGNER				
					PROJECT/project		
					NAME OF DRAWING		
					OHIECO		
					Project Manager		
					PM		
							No. pgs. 106



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





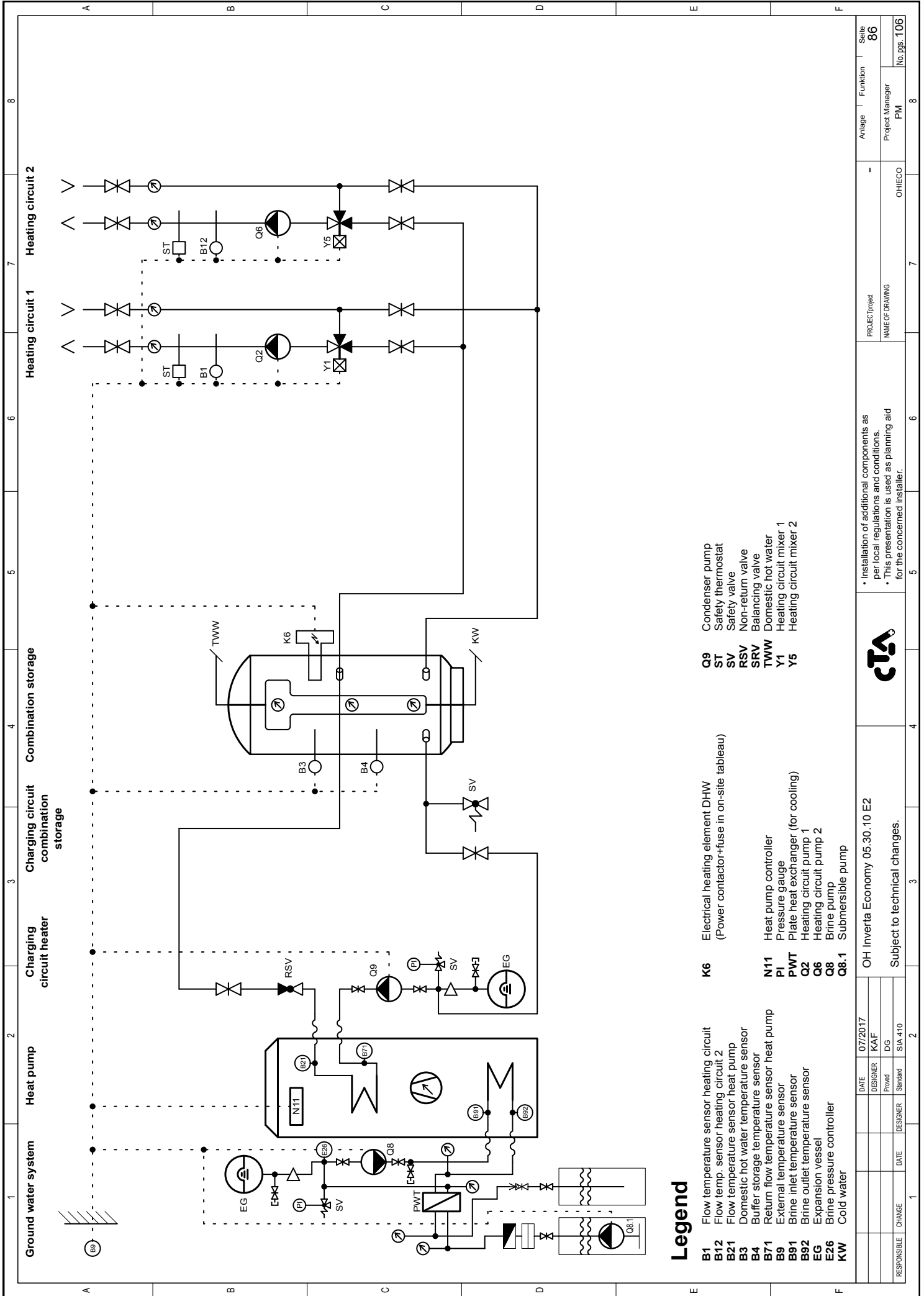
Legend

- B1** Flow temperature sensor heating circuit
- B2** Flow temperature sensor heat pump
- B3** Domestic hot water temperature sensor
- 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
- EG** Expansion vessel
- E26** Brine pressure controller
- KW** Cold water
- K6** Electrical heating element DHW
(Power contactor+fuse in on-site tableau)
- N11** Heat pump controller
- PI** Pressure gauge
- PWT** Plate heat exchanger (for cooling)
- Q2** Heating circuit pump 1
- Q6** Heating circuit pump 2
- Q8** Brine pump
- Q8.1** Submersible pump
- Q9** Condenser pump
- Q15** Heating circuit pump
- ST** Safety thermostat
- SV** Safety valve
- RSV** Non-return valve
- SRV** Balancing valve
- TWW** Domestic hot water
- Y1** Heating circuit mixer 1

	DATE	07/2017	DESIGNER	KAF	Anlage	Funktion	Seite
	Powerd	DG			-		85
RESPONSIBLE	CHANGE	DATE	DESIGNER	Standard	SIA 410	Project Manager	PM
					OHIECO		
					PROJECT/project		
					NAME OF DRAWING		
							No. pgs. 106
							8

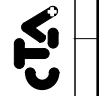
- Installation of additional components as per local regulations and conditions.
- This presentation is used as planning aid for the concerned installer.

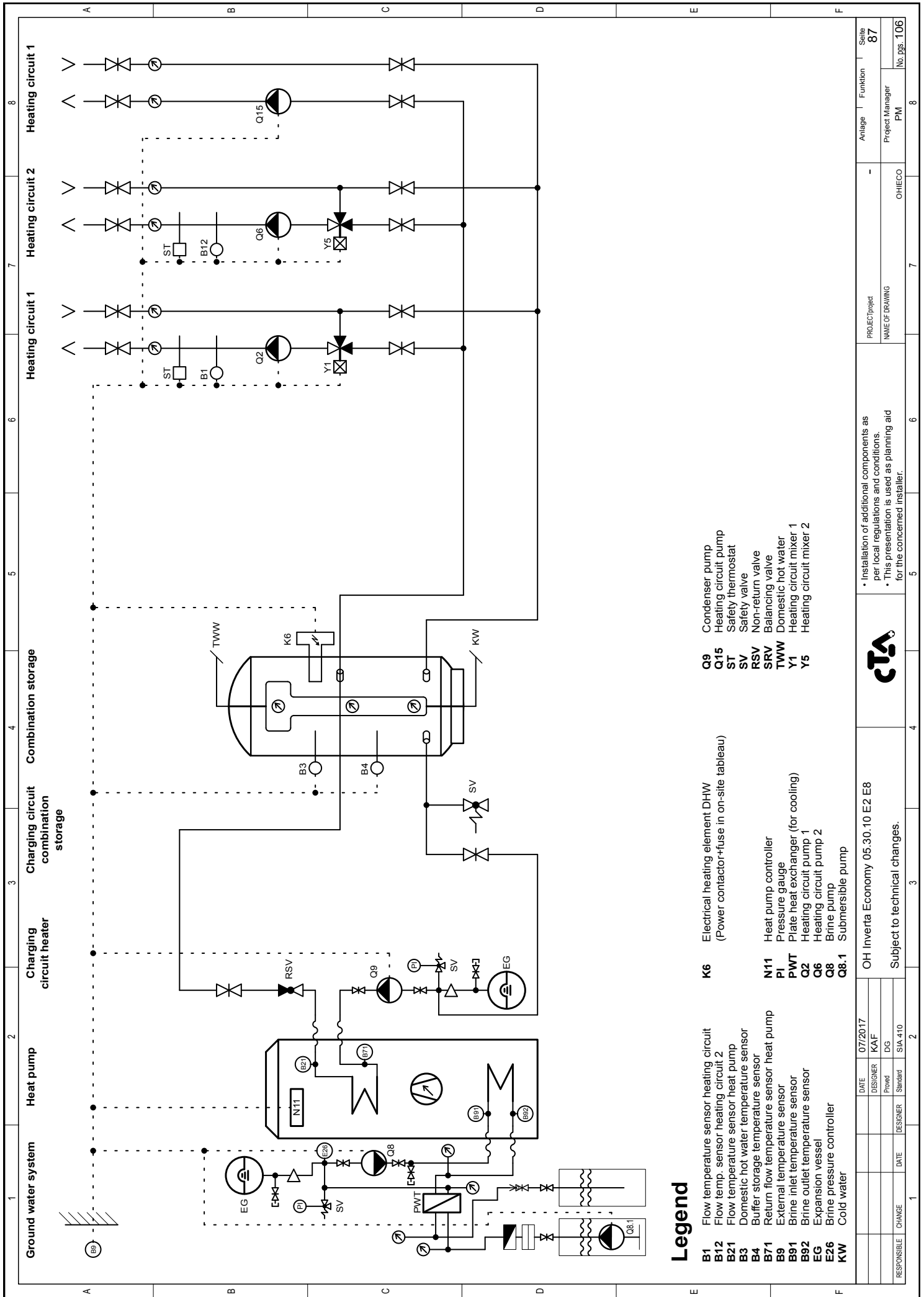




		DATE 07/2017		DESIGNER KAF		OH Inverta Economy 05.30.10 E2		Anlage Funktion		Seite 86	
		Powod DG		Standard SIA 410		Subject to technical changes.		PROJECT/Project -		Project Manager PM	
RESPONSIBLE CHANGE		DATE		DESIGNER				OHIECO		No. pgs. 106	
										8	

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





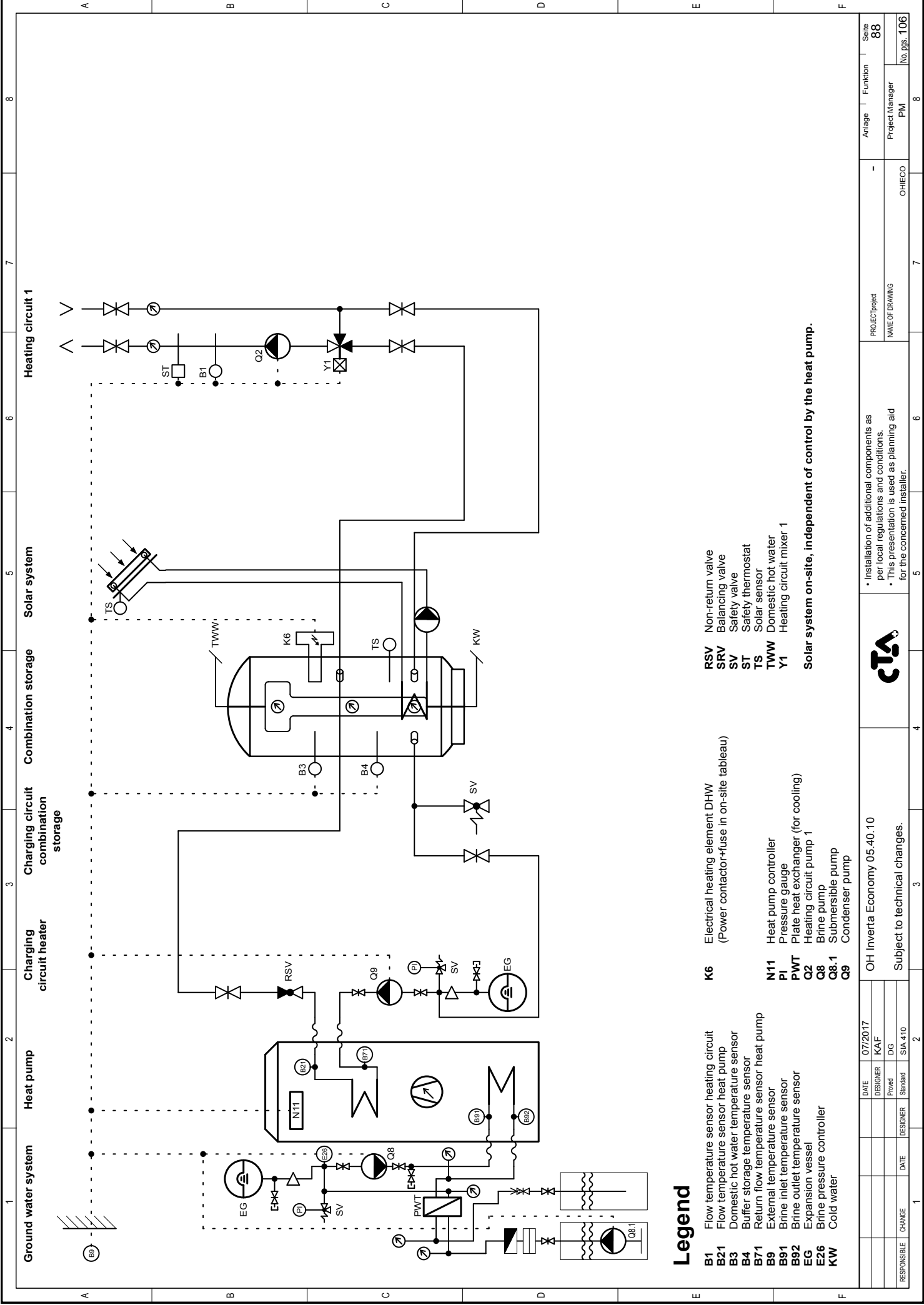
Legend

- B1** Flow temperature sensor heating circuit
- B12** Flow temp. sensor heating circuit 2
- B21** Flow temperature sensor heat pump
- B3** Domestic hot water temperature sensor
- 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
- EG** Expansion vessel
- E26** Brine pressure controller
- KW** Cold water
- K6** Electrical heating element DHW
(Power contactor+fuse in on-site tableau)
- Q9** Condenser pump
- Q15** Heating circuit pump
- ST** Safety thermostat
- SV** Safety valve
- RSV** Non-return valve
- SRV** Balancing valve
- TWW** Domestic hot water
- Y1** Heating circuit mixer 1
- Y5** Heating circuit mixer 2
- N11** Heat pump controller
- PI** Pressure gauge
- PWT** Plate heat exchanger (for cooling)
- Q2** Heating circuit pump 1
- Q6** Heating circuit pump 2
- Q8** Brine pump
- Q8.1** Submersible pump

	DATE	07/2017	DESIGNER	KAF	Anlage	Funkt看	Seite
	Powerd	DG	Stand	SIA 410			87
RESPONSIBLE	CHANGE	DATE	DESIGNER	Stand	PROJECT/project	NAME OF DRAWING	Project Manager
						OHIECO	PM
							No. pgs. 106

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





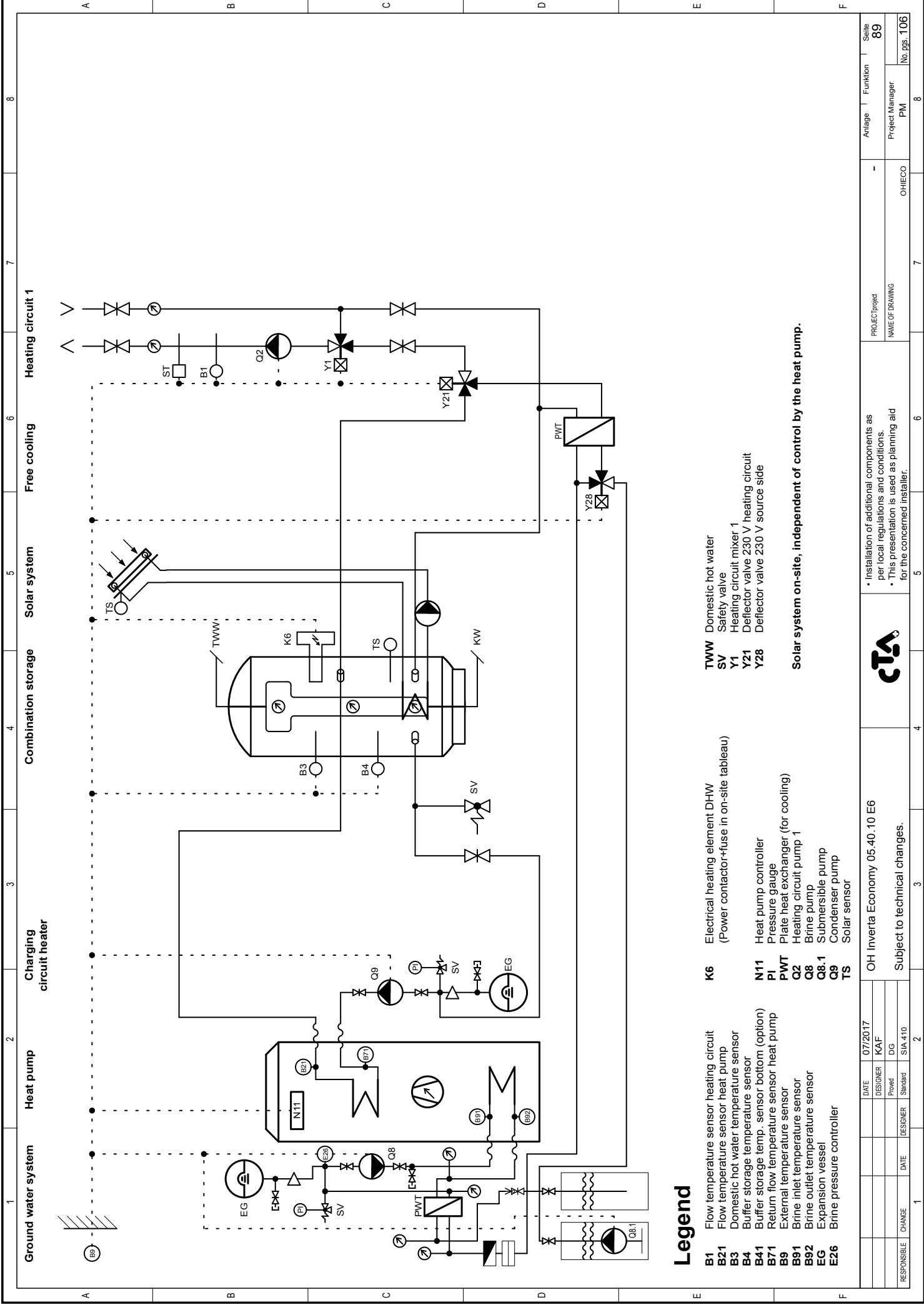
Legend

- B1** Flow temperature sensor heating circuit
- B21** Flow temperature sensor heat pump
- B3** Domestic hot water temperature sensor
- 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
- EG** Expansion vessel
- E26** Brine pressure controller
- KW** Cold water
- K6** Electrical heating element DHW (Power contactor+fuse in on-site tableau)
- N11** Heat pump controller
- PI** Pressure gauge
- PWT** Plate heat exchanger (for cooling)
- Q2** Heating circuit pump 1
- Q8** Brine pump
- Q8.1** Submersible pump
- Q9** Condenser pump
- RSV** Non-return valve
- SV** Balancing valve
- ST** Safety valve
- TS** Safety thermostat
- TWW** Solar sensor
- Y1** Domestic hot water Heating circuit mixer 1

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

RESPONSIBLE		CHANGE	DATE	DESIGNER	Standard	SIA 410	OH Inverta Economy 05.40.10		Subject to technical changes.		OHIECO		Project Manager	PM	Anlage		Funktion	Seite	88
DATE		07/2017	DESIGNER	KAF	Powid	DG	OH Inverta Economy 05.40.10		Subject to technical changes.		OHIECO		Project Manager	PM	Anlage		Funktion	Seite	88
PROJECT/Project		Installation of additional components as per local regulations and conditions.										NAME OF DRAWING		PROJECT Manager		No. pgs. 106			
PROJECT/Project		Installation of additional components as per local regulations and conditions.										NAME OF DRAWING		PROJECT Manager		No. pgs. 106			



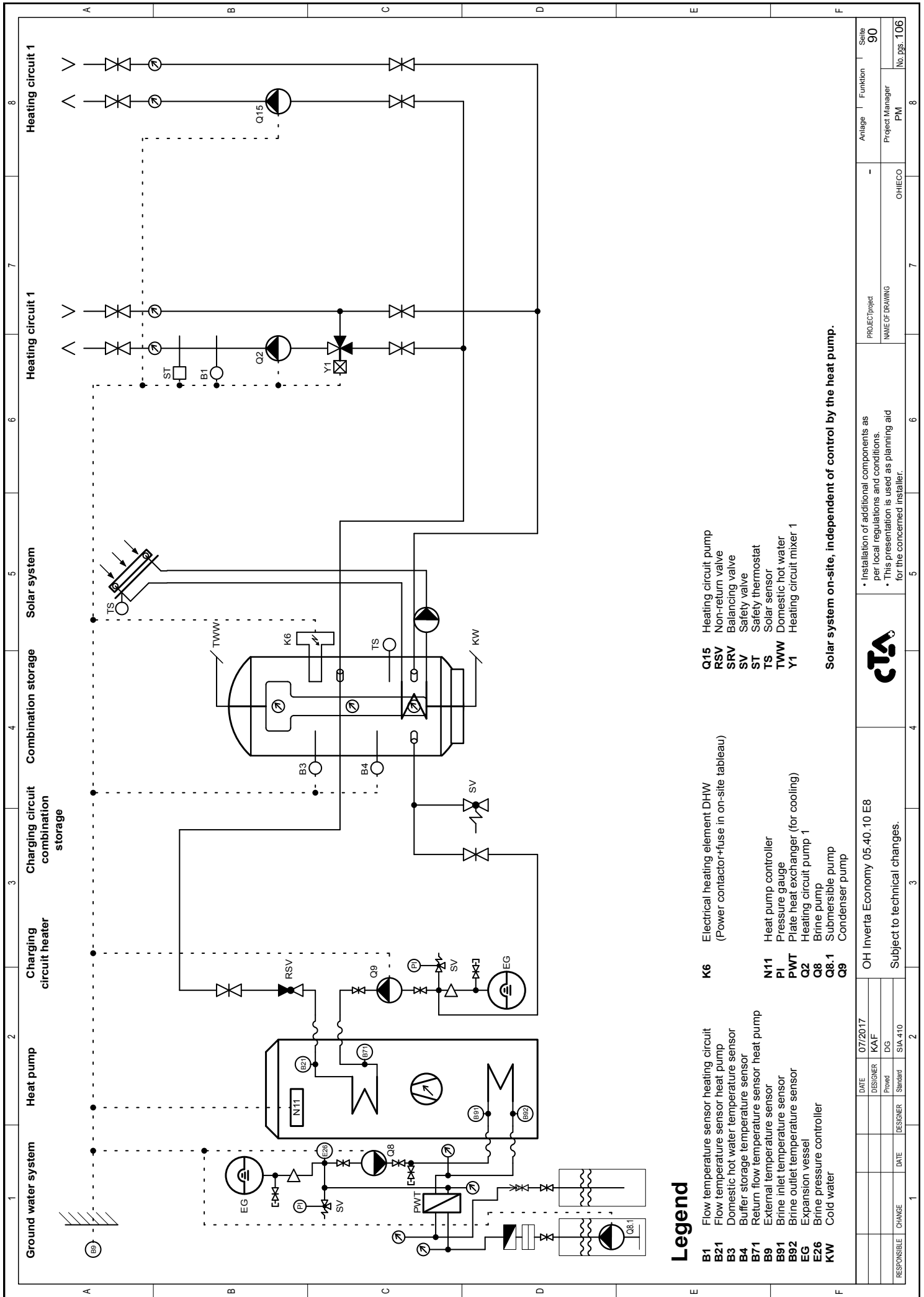


Legend

- B1** Flow temperature sensor heating circuit
- B2** Flow temperature sensor heat pump
- B3** Domestic hot water 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
- EG** Expansion vessel
- E26** Brine pressure controller
- K6** Electrical heating element DHW (Power contactor+fuse in on-site tableau)
- N11** Heat pump controller
- PI** Pressure gauge
- PWT** Plate heat exchanger (for cooling)
- Q2** Heating circuit pump 1
- Q8** Brine pump
- Q8.1** Submersible pump
- Q9** Condenser pump
- TS** Solar sensor
- TWW** Domestic hot water
- SV** Safety valve
- Y1** Heating circuit mixer 1
- Y21** Deflector valve 230 V heating side
- Y28** Deflector valve 230 V source side

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


	DATE	07/2017	OH Inverta Economy 05.40.10 EG	PROJECT	Anlage	Funktio	Seite
	DESIGNER	KAF	Subject to technical changes.	NAME OF DRAWING	Project Manager	PM	89
RESPONSIBLE	CHANGE	DATE		DESIGNER	Standard	SIA 410	

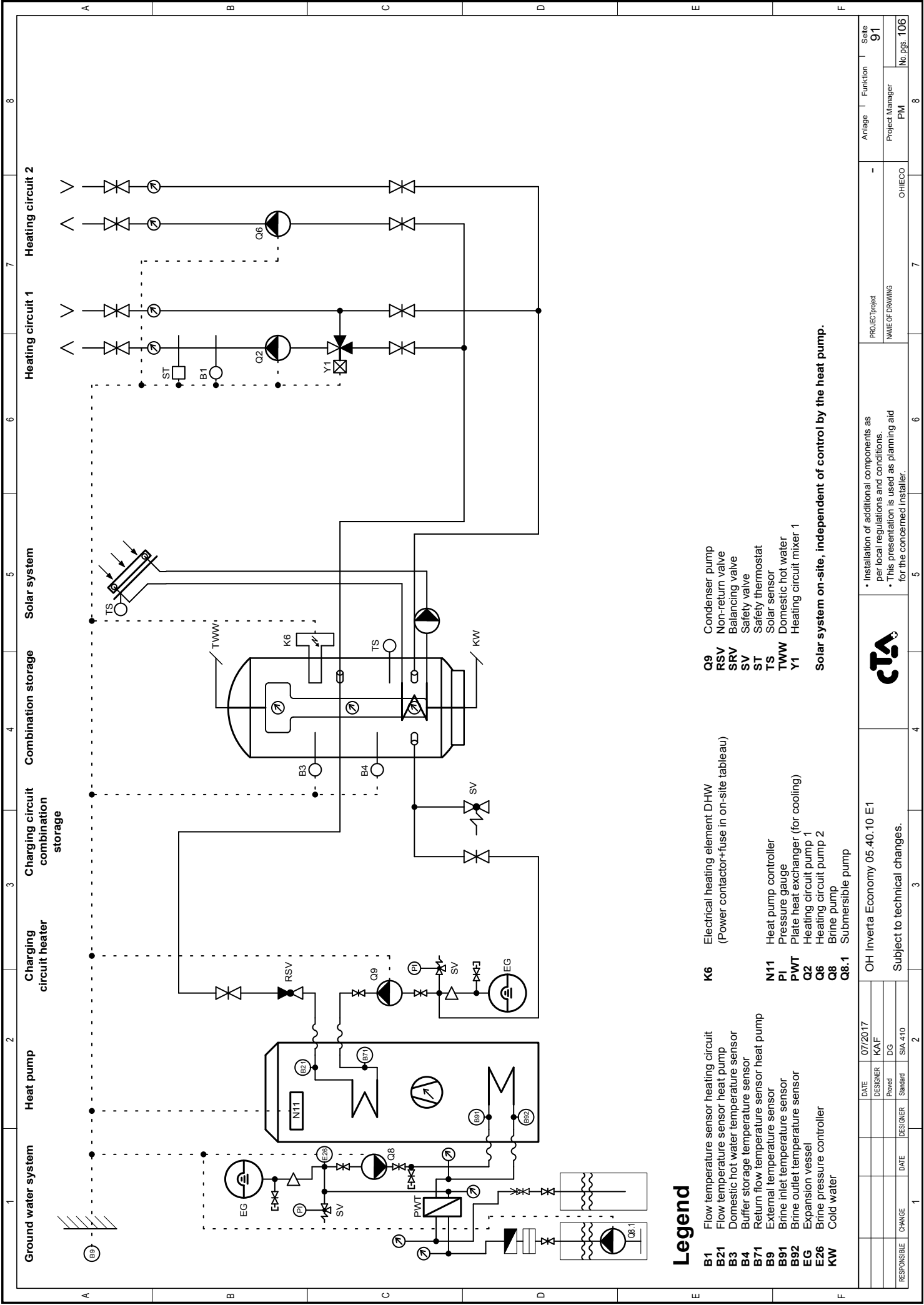


Legend

- | | | | | | |
|------------|--|-------------|---|------------|-------------------------|
| B1 | Flow temperature sensor heating circuit | K6 | Electrical heating element DHW
(Power contactor+fuse in on-site tableau) | Q15 | Heating circuit pump |
| B21 | Flow temperature sensor heat pump | N11 | Heat pump controller | RSV | Non-return valve |
| B3 | Domestic hot water temperature sensor | PI | Pressure gauge | SRV | Balancing valve |
| B4 | Buffer storage temperature sensor | PWT | Plate heat exchanger (for cooling) | SV | Safety valve |
| B71 | Return flow temperature sensor heat pump | Q2 | Heating circuit pump 1 | ST | Safety thermostat |
| B9 | External temperature sensor | Q8.1 | Submersible pump | TS | Solar sensor |
| B91 | Brine inlet temperature sensor | Q9 | Condenser pump | TWW | Domestic hot water |
| B92 | Brine outlet temperature sensor | | | Y1 | Heating circuit mixer 1 |
| EG | Expansion vessel | | | | |
| E26 | Brine pressure controller | | | | |
| KW | Cold water | | | | |

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

RESPONSIBLE		CHANGE	DATE	DESIGNER	Standard	SIA 410	OH Inverta Economy 05.40.10 EB		Subject to technical changes.				<ul style="list-style-type: none"> Installation of additional components as per local regulations and conditions. This presentation is used as planning aid for the concerned installer. 		PROJECT	Project	-	Anlage	Funktion	Seite	
				Powid	DG										OHIECO	Project Manager	PM			90	
																					8
																					No. pgs. 106

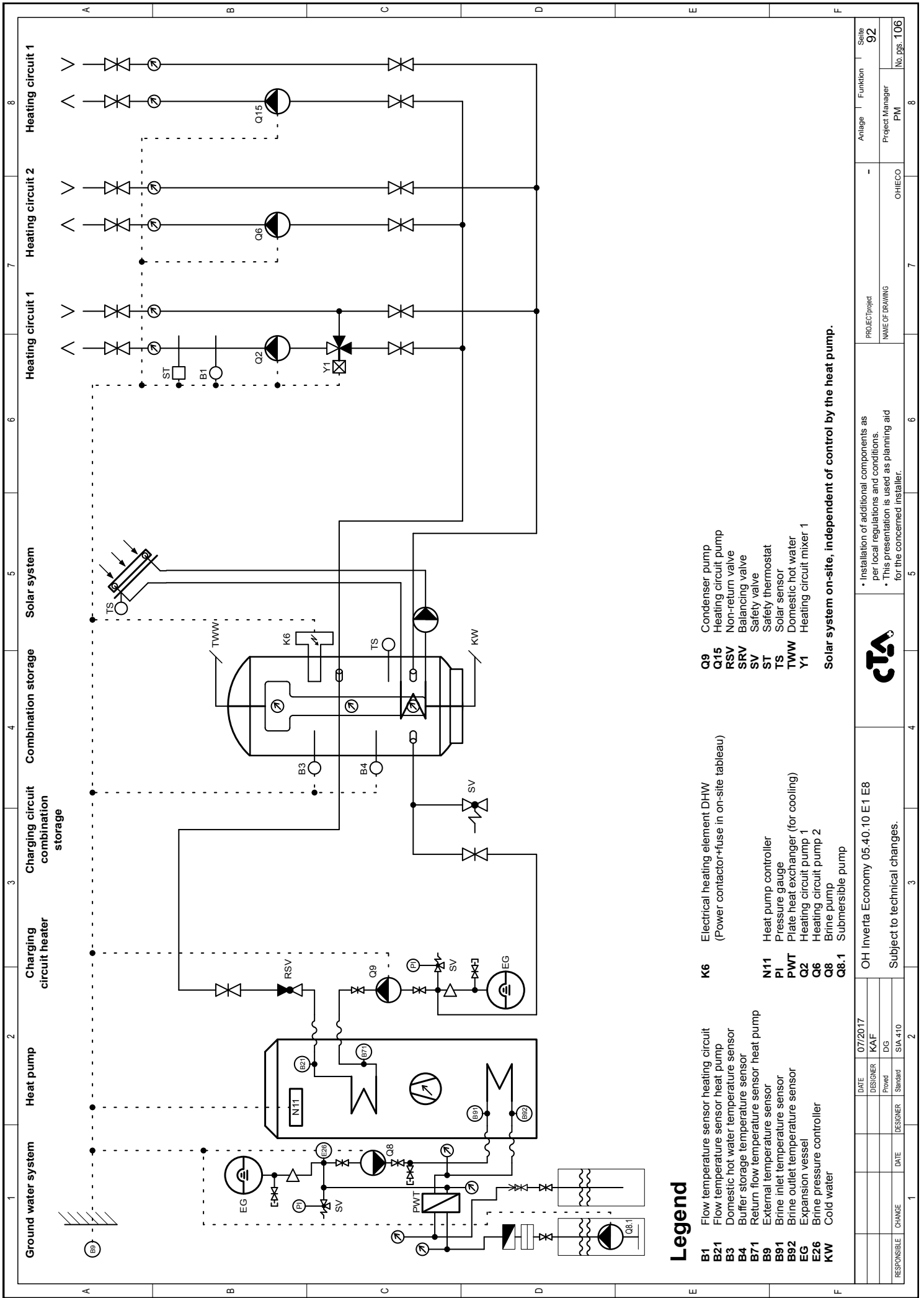


Legend

- B1 Flow temperature sensor heating circuit
- B21 Flow temperature sensor heat pump
- B3 Domestic hot water temperature sensor
- 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
- EG Expansion vessel
- E26 Brine pressure controller
- KW Cold water
- K6 Electrical heating element DHW (Power contactor+fuse in on-site tableau)
- N11 Heat pump controller
- PI Pressure gauge
- PWT Plate heat exchanger (for cooling)
- Q2 Heating circuit pump 1
- Q6 Heating circuit pump 2
- Q8 Brine pump
- Q8.1 Submersible pump
- Q9 Condenser pump
- RSV Non-return valve
- SRV Balancing valve
- SV Safety valve
- ST Safety thermostat
- TS Solar sensor
- TWW Domestic hot water
- Y1 Heating circuit mixer 1

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

RESPONSIBLE	CHANGE	DATE	DESIGNER	Standard	SIA 410	2	OH Inverta Economy 05.40.10 E1	Subject to technical changes.	3	4		<ul style="list-style-type: none"> • Installation of additional components as per local regulations and conditions. • This presentation is used as planning aid for the concerned installer. 	PROJECT/project	OHIECO	Project Manager	PM	8	Seite	91
														NAME OF DRAWING					No. pgs.

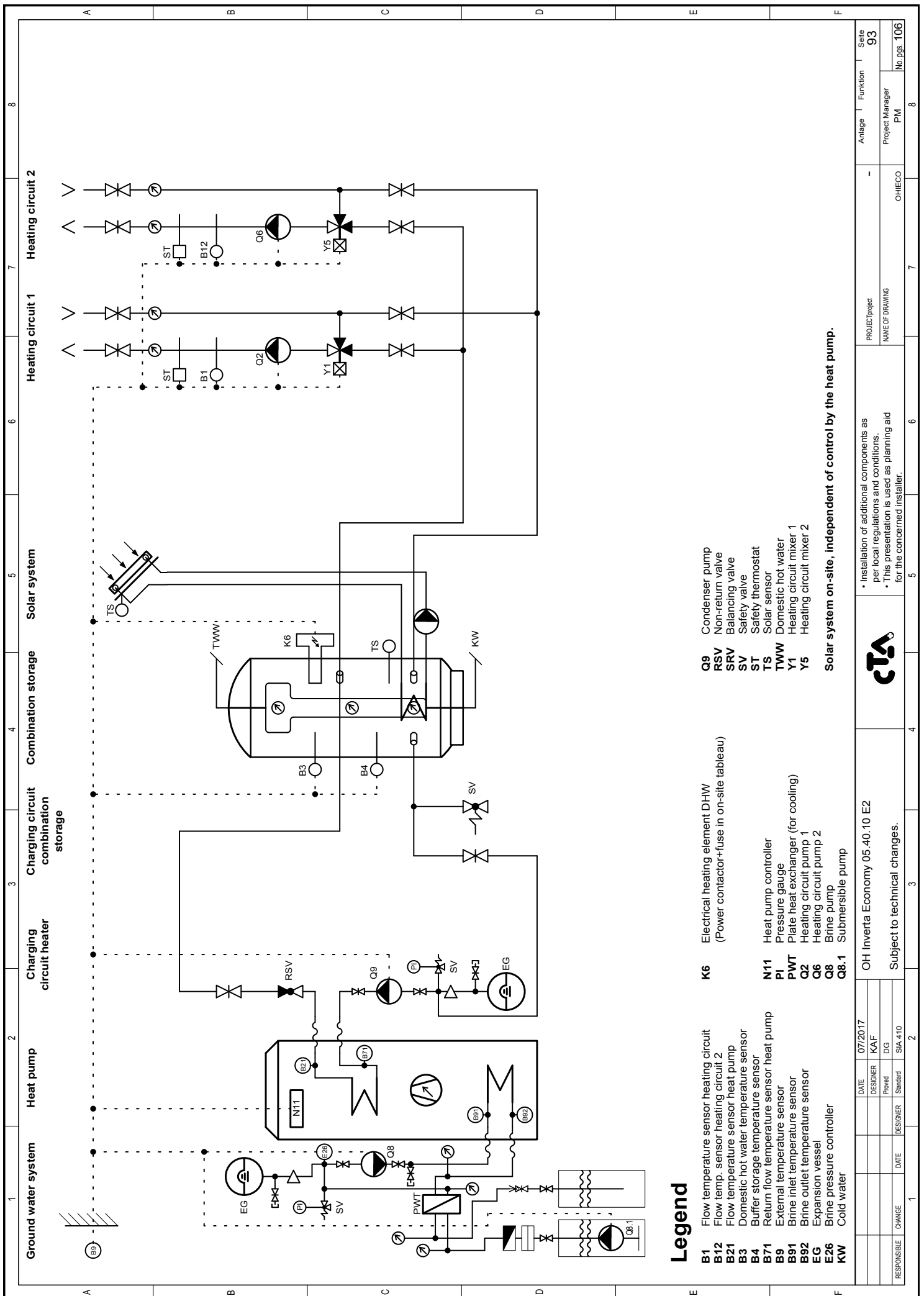


Legend

- B1 Flow temperature sensor heating circuit
- B21 Flow temperature sensor heat pump
- B3 Domestic hot water temperature sensor
- 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
- EG Expansion vessel
- E26 Brine pressure controller
- KW Cold water
- K6 Electrical heating element DHW (Power contactor+fuse in on-site tableau)
- N11 Heat pump controller
- PI Pressure gauge
- PWT Plate heat exchanger (for cooling)
- Q2 Heating circuit pump 1
- Q6 Heating circuit pump 2
- Q8 Brine pump
- Q8.1 Submersible pump
- Q9 Condenser pump
- Q15 Heating circuit pump
- RSV Non-return valve
- SRV Balancing valve
- SV Safety valve
- ST Safety thermostat
- TS Solar sensor
- TW Domestic hot water
- Y1 Heating circuit mixer 1

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

RESPONSIBLE	CHANGE	DATE	DESIGNER	Standard	DATE	DESIGNER	Standard	DATE	07/2017	DESIGNER	KAF
OH Inverta Economy 05.40.10 E1 E8										Subject to technical changes.	
Installation of additional components as per local regulations and conditions.										PROJECT/Project	
This presentation is used as planning aid for the concerned installer.										NAME OF DRAWING	
OHIECO										Project Manager	
										PM	
										Anlage	
										Funkt看n	
										Seite	
										92	
										No. pgs. 106	

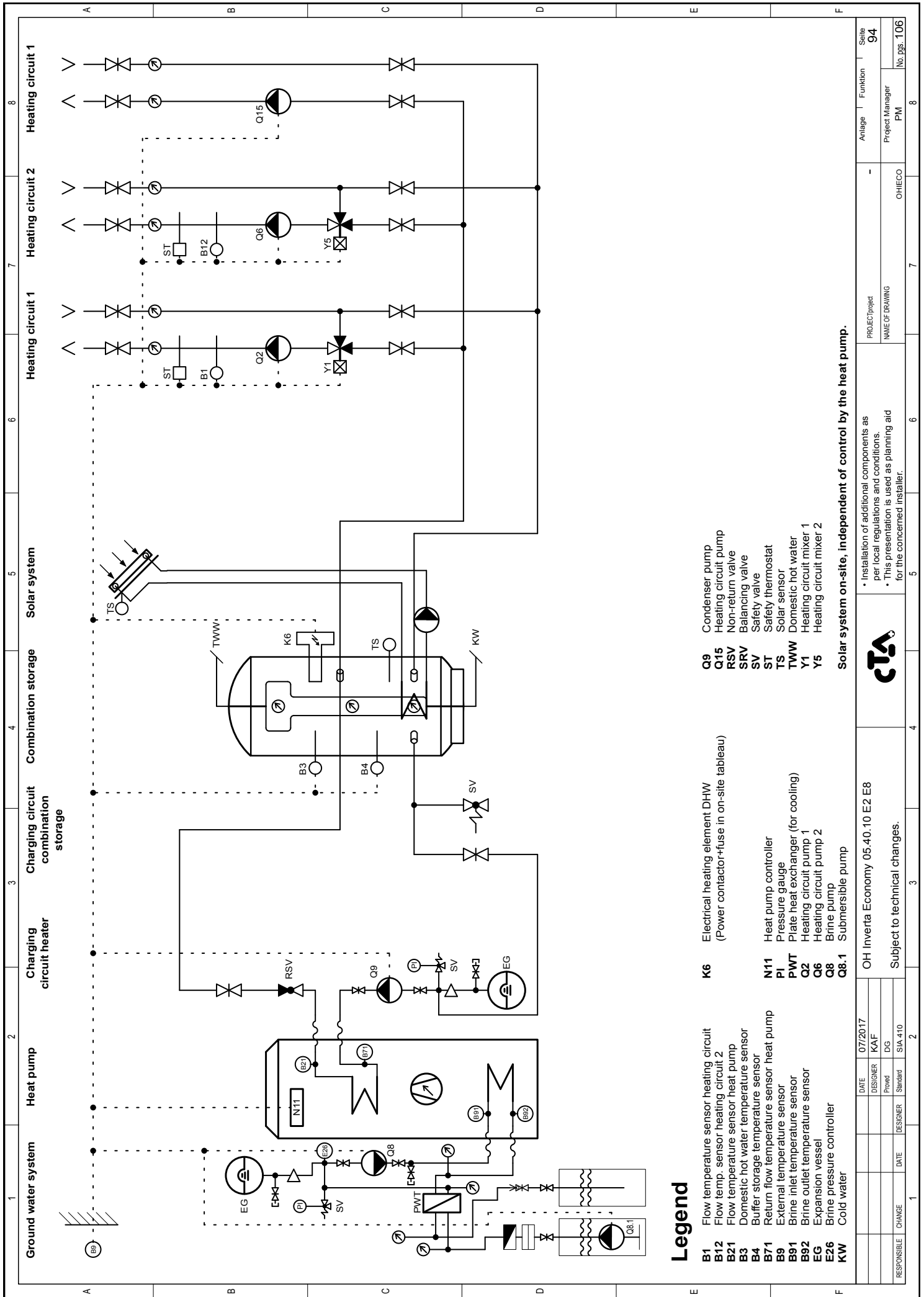


Legend

- B1 Flow temperature sensor heating circuit
- B12 Flow temp. sensor heating circuit 2
- B21 Flow temperature sensor heat pump
- B3 Domestic hot water temperature sensor
- 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
- EG Expansion vessel
- E26 Brine pressure controller
- KW Cold water
- N11 Heat pump controller
- PI Pressure gauge
- PWT Plate heat exchanger (for cooling)
- Q2 Heating circuit pump 1
- Q6 Heating circuit pump 2
- Q8 Brine pump
- Q8.1 Submersible pump
- K6 Electrical heating element DHW
(Power contactor+fuse in on-site tableau)
- N11 Heat pump controller
- PI Pressure gauge
- PWT Plate heat exchanger (for cooling)
- Q2 Heating circuit pump 1
- Q6 Heating circuit pump 2
- Q8 Brine pump
- Q8.1 Submersible pump
- R9V Condenser pump
- RSV Non-return valve
- SRV Balancing valve
- SV Safety valve
- ST Safety thermostat
- TS Solar sensor
- TWW Domestic hot water
- Y1 Heating circuit mixer 1
- Y5 Heating circuit mixer 2

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

RES	CH	DATE	DESIGNER	DATE	DESIGNER	PROVID	DG	DATE	DESIGNER	PROVID	DG	
		07/2017	KAF									
			SIA 410									
		OH Inverta Economy 05.40.10 E2										
Subject to technical changes.												
CTA												
Installation of additional components as per local regulations and conditions.												
This presentation is used as planning aid for the concerned installer.												
PROJECT/Project									Anlage		Funktion	Seite
NAME OF DRAWING									Project Manager		PM	93
										OHIECO		
										8		
										7		
										6		
										5		
										4		
										3		
										2		
										1		



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
- 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
- EG** Expansion vessel
- E26** Brine pressure controller
- KW** Cold water
- K6** Electrical heating element DHW (Power contactor+fuse in on-site tableau)
- N11** Heat pump controller
- PI** Pressure gauge
- PWT** Plate heat exchanger (for cooling)
- Q2** Heating circuit pump 1
- Q6** Heating circuit pump 2
- Q8** Brine pump
- Q8.1** Submersible pump
- Q8.2** Submersible pump
- Q9** Condenser pump
- Q15** Heating circuit pump
- RSV** Non-return valve
- SRV** Balancing valve
- SV** Safety valve
- ST** Safety thermostat
- TS** Solar sensor
- TWW** Domestic hot water
- Y1** Heating circuit mixer 1
- Y5** Heating circuit mixer 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 Inverta Economy 05.40.10 E2 E8

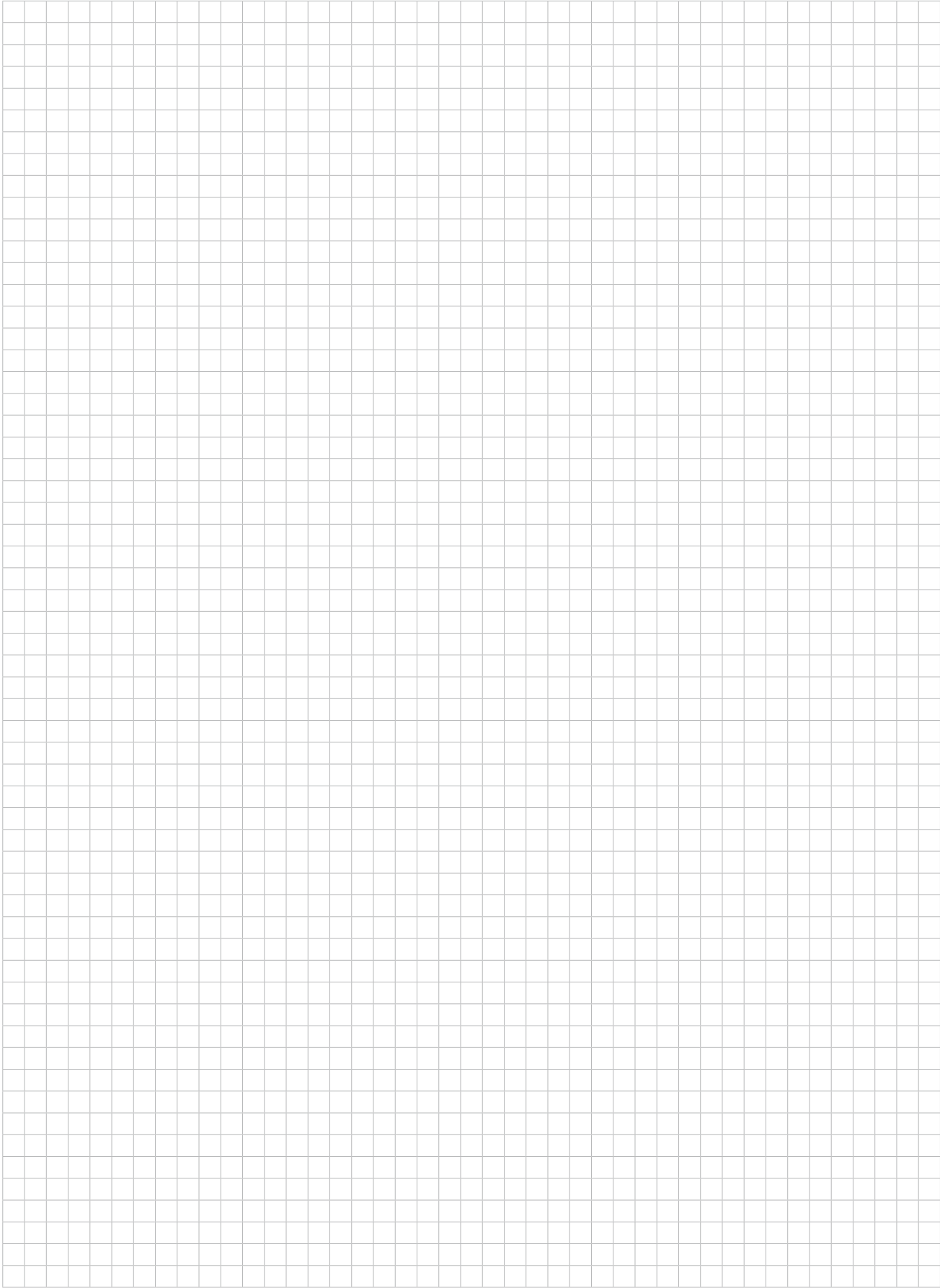
Subject to technical changes.

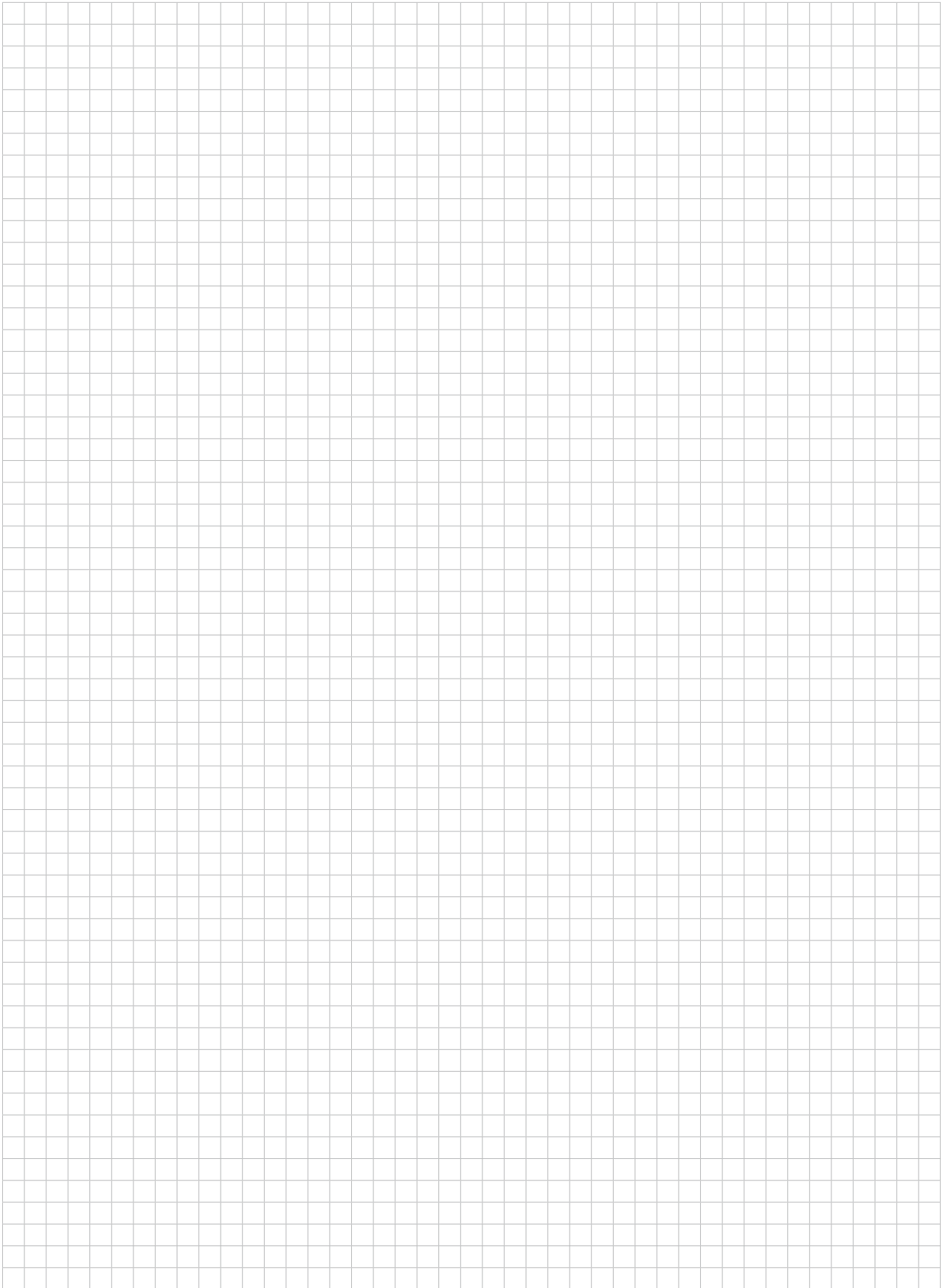
RESPONSIBLE	CHANGE	DATE	DESIGNER	DATE	DESIGNER	Standard	SIA 410
			Powod		DG		
			DESIGNER		KAF		

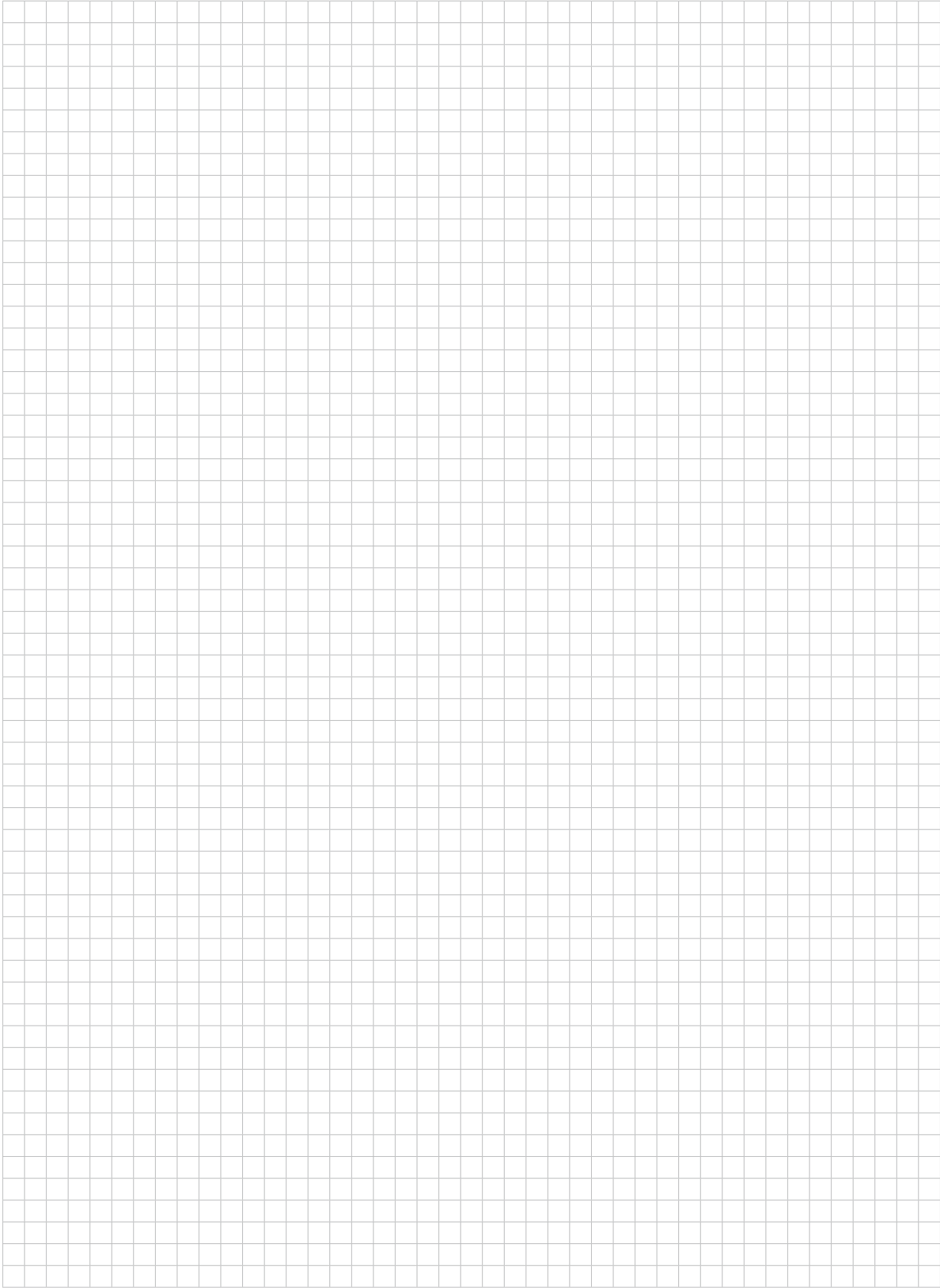
PROJECT/project
NAME OF DRAWING

Anlage / Funktion
Project Manager / PM

Seite / No. pgs.
94 / 106







CTA AG

Hunzigenstrasse 2
CH-3110 Münsingen
www.cta.ch