ECM
Espresso Coffee Machines Manufacture GmbH

Hydraulikpläne und Stromlaufpläne

21.09.2017

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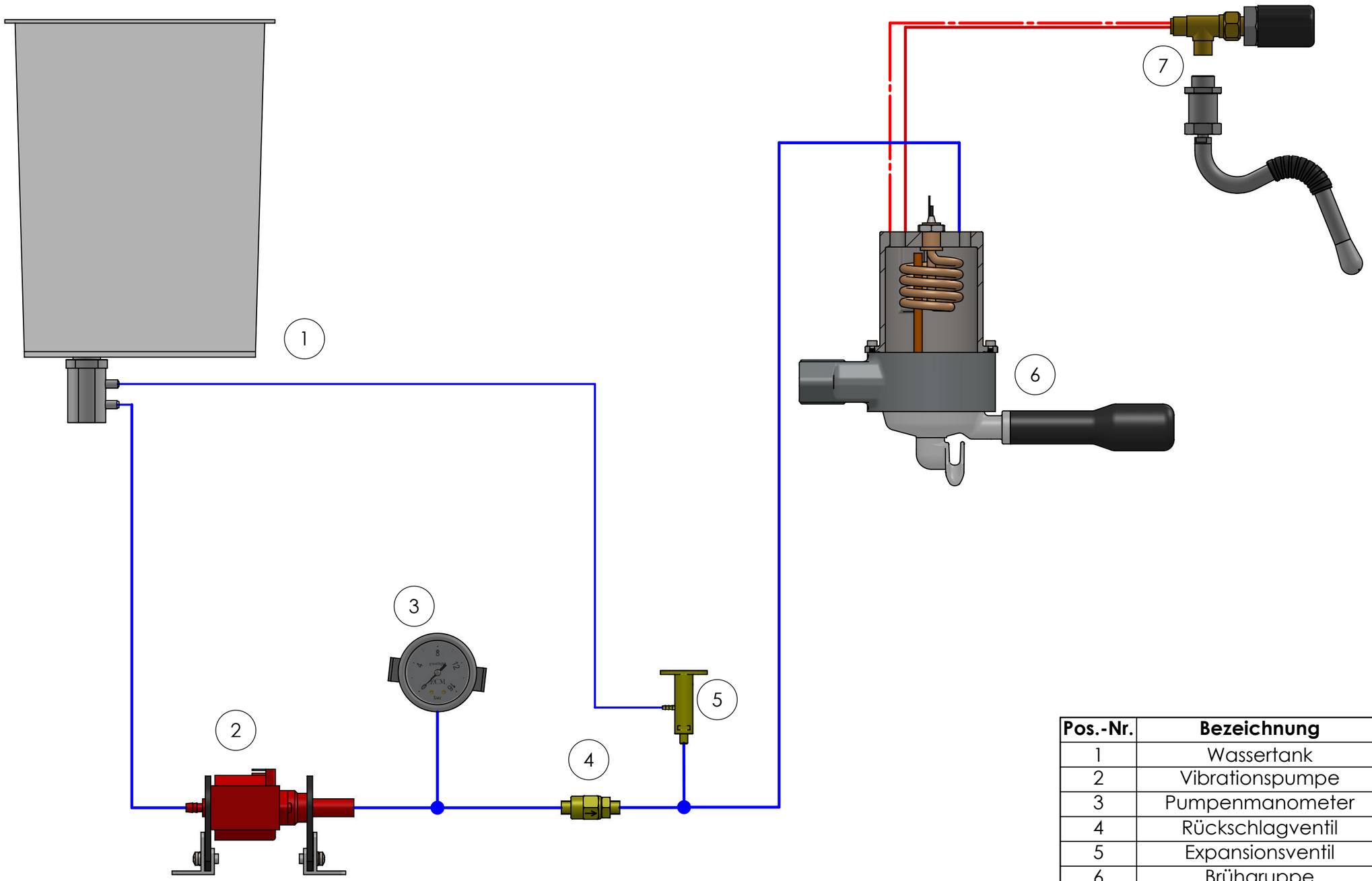

Pos.-Nr.	Bezeichnung	Description
1	Wassertank	Watertank
2	Vibrationspumpe	Vibrationpump
3	Pumpenmanometer	Pumppressure gauge
4	Rückschlagventil	one way valve
5	Expansionsventil	Expansionvalve
6	Brühgruppe	Brewing group
7	Dampf- / Heißwasserventil	Steam- / Hot water valve

_____	kaltes Wasser	cold water
_____	heißes Wasser	hot water
----------	Dampf	steam

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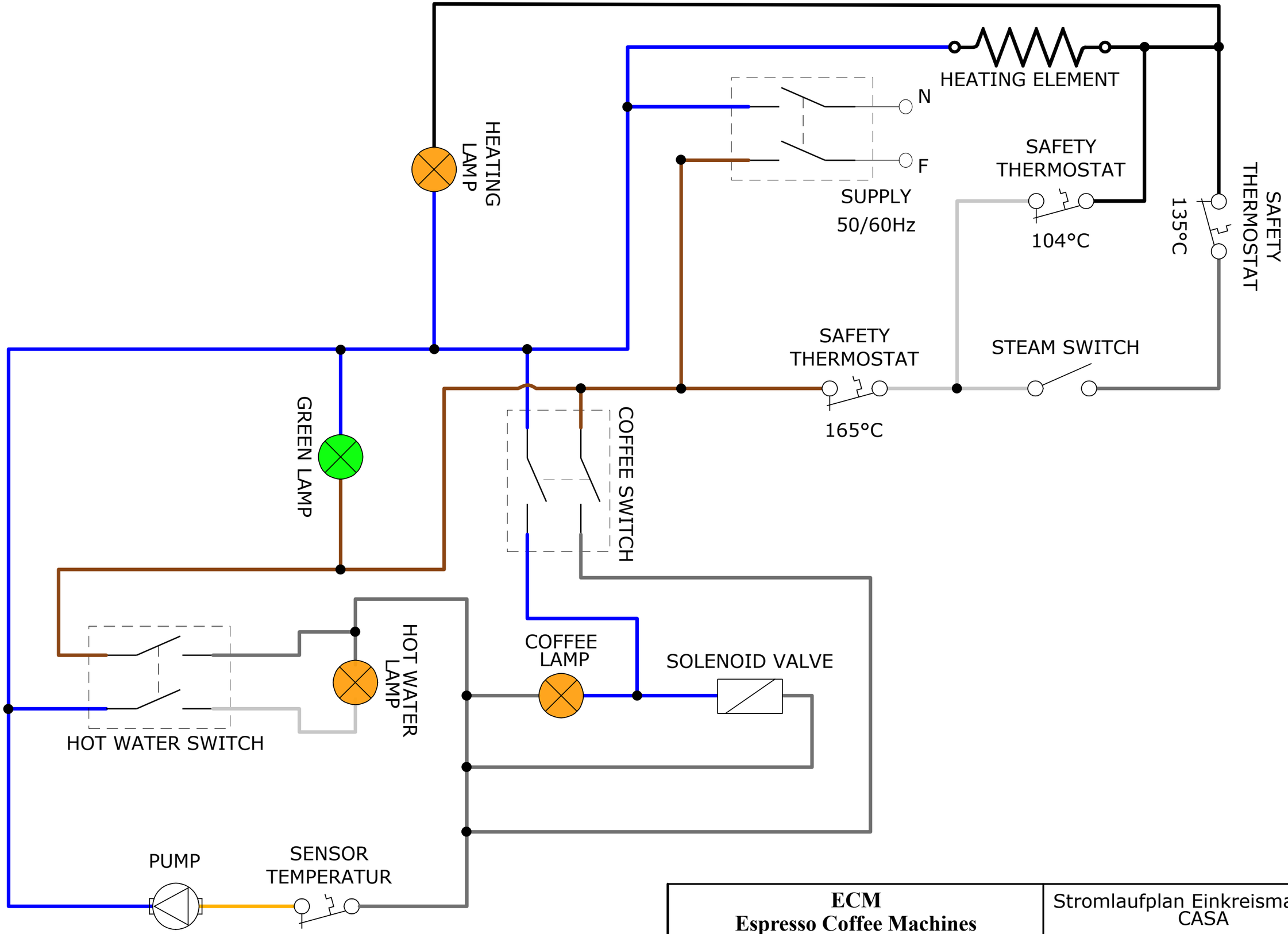
Hydraulikplan CASA

Hydraulic scheme CASA



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Stromlaufplan Einkreismaschine CASA

circiut diagram single boiler CASA

Einkreismaschinen

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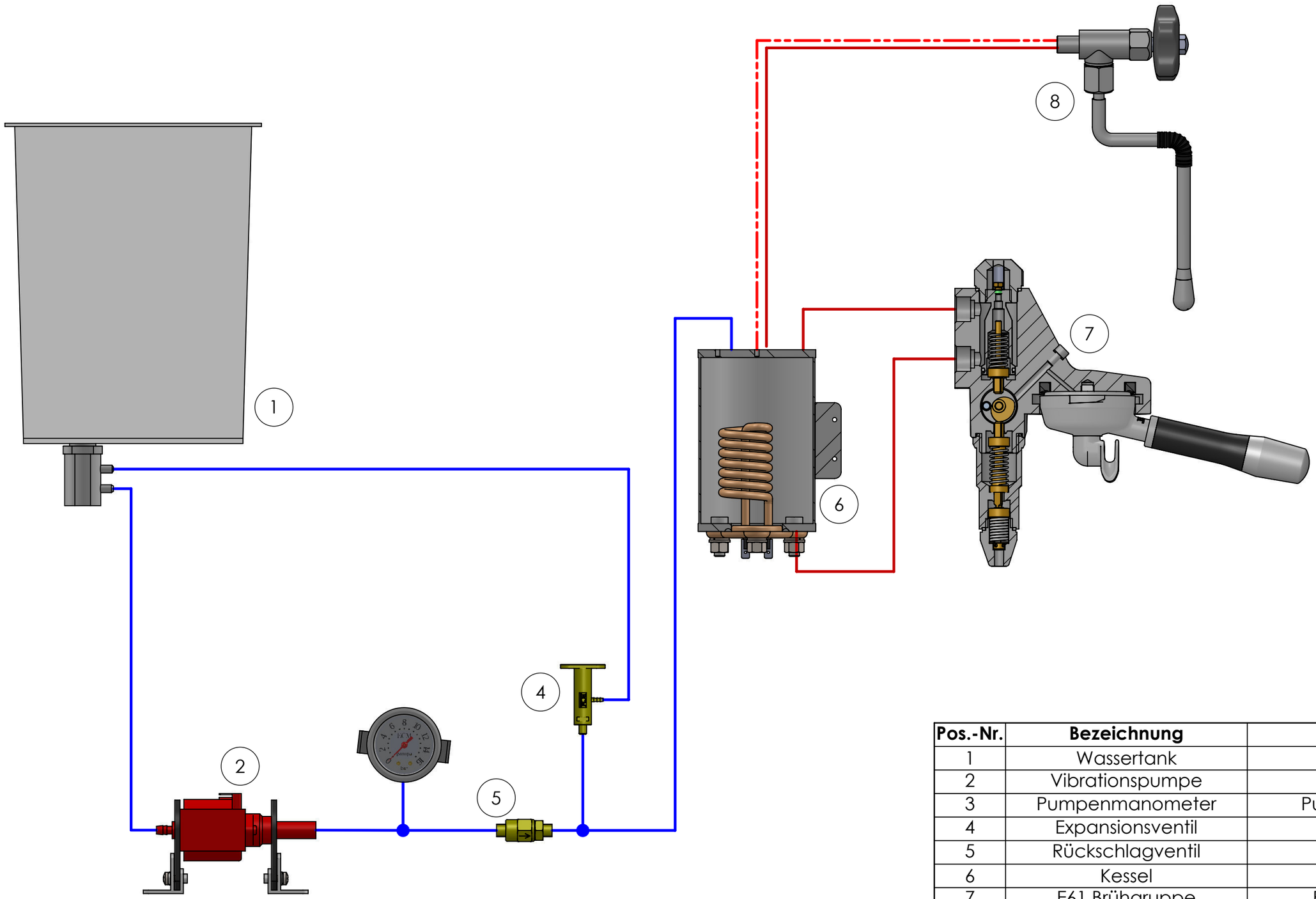

Pos.-Nr.	Bezeichnung	Description
1	Wassertank	Watertank
2	Vibrationspumpe	Vibrationpump
3	Pumpenmanometer	Pumppressure gauge
4	Expansionsventil	Expansionvalve
5	Rückschlagventil	one way valve
6	Kessel	Boiler
7	E61 Brühgruppe	E61 brewing group
8	Dampf-/ Heißwasserventil	Steam / hot water valve

_____	kaltes Wasser	cold water
_____	heißes Wasser	hot water
----------	Dampf	steam

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Hydraulikplan Einkreismaschine

Hydraulic scheme single boiler

SUPPLY
50/60Hz
F
N
REED
SENSOR
FA10
FA 9
FA 8
FA 6
FA 4
FA 2
FA 1
GREEN LAMP
SAFETY
THERMOSTAT
165°C
ORANGE
LAMP
SAFETY
THERMOSTAT
135°C
SAFETY
THERMOSTAT
104°C
SSR
01
02
3+
4−
PUMP
SENSOR
TEMPERATUR
Switch group
Switch
HEATING ELEMENT
ORANGE
LAMP

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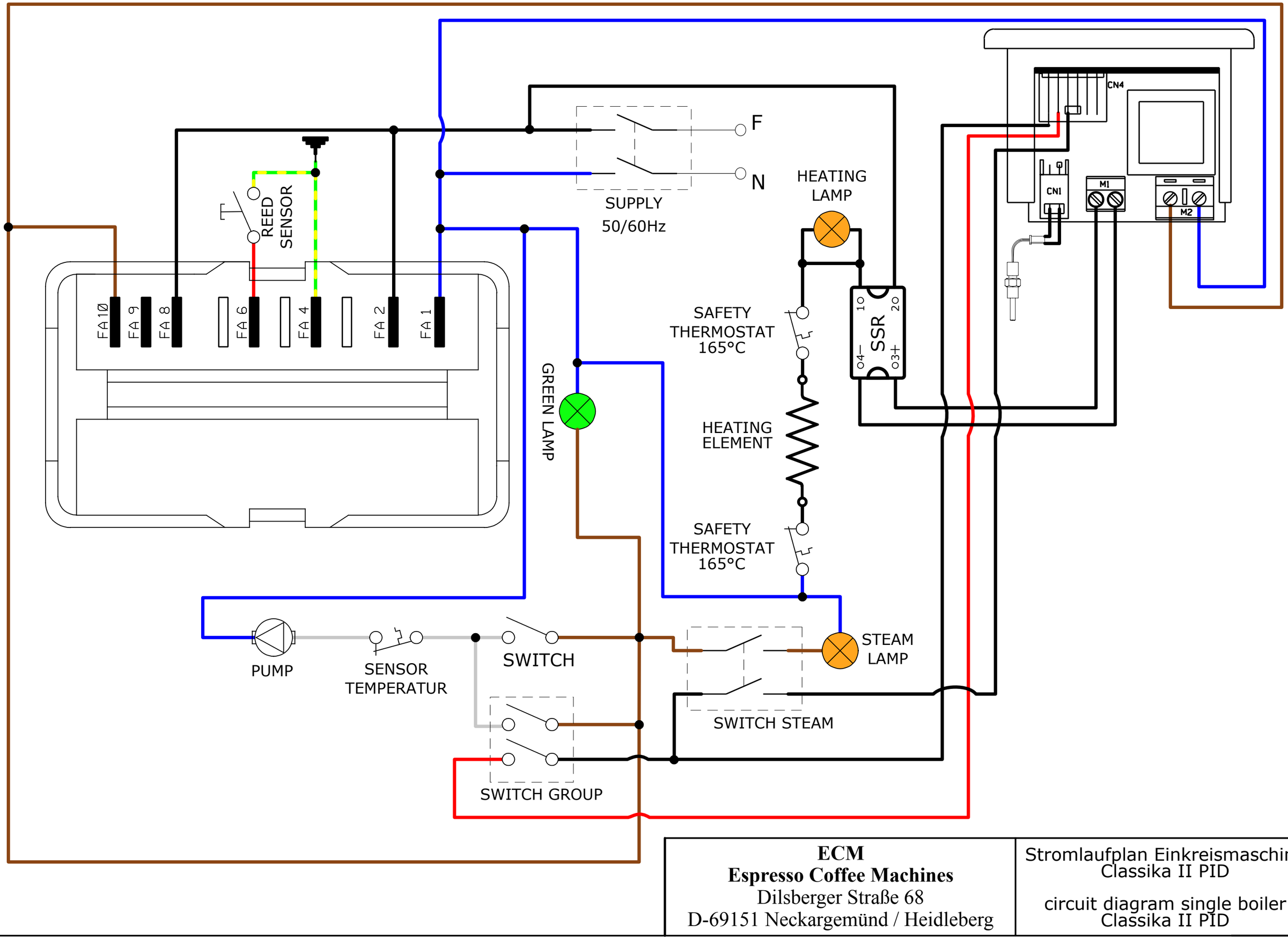
Stromlaufplan Einkreismaschine
Classika II

circuit diagram single boiler
Classika II



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Stromlaufplan Einkreismaschine
Classika II PID

circuit diagram single boiler
Classika II PID

Zweikreismaschinen

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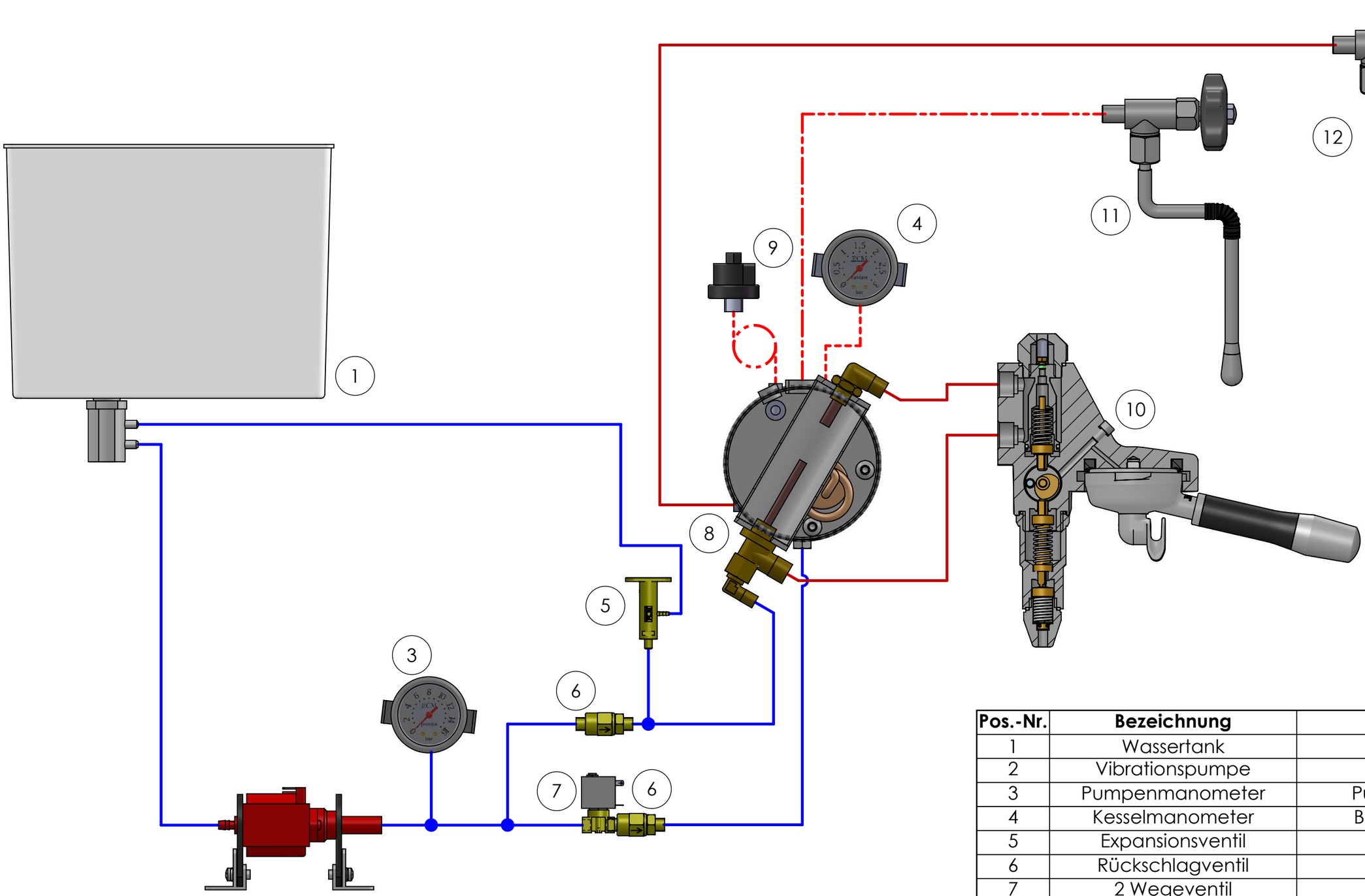

Pos.-Nr.	Bezeichnung	Description
1	Wassertank	Watertank
2	Vibrationspumpe	Vibrationpump
3	Pumpenmanometer	Pumppressure gauge
4	Kesselmanometer	Boilerpressure gauge
5	Expansionsventil	Expansionvalve
6	Rückschlagventil	one way valve
7	2 Wegeventil	2 way valve
8	Kessel mit Wärmetauscher	Boiler with heatexchanger
9	Pressostat	Pressure switch
10	E61 Brühgruppe	E61 brewing group
11	Dampfventil	Steam valve
12	Heißwasserventil	Hot water valve

_____	kaltes Wasser	cold water
_____	heißes Wasser	hot water
----------	Dampf	steam

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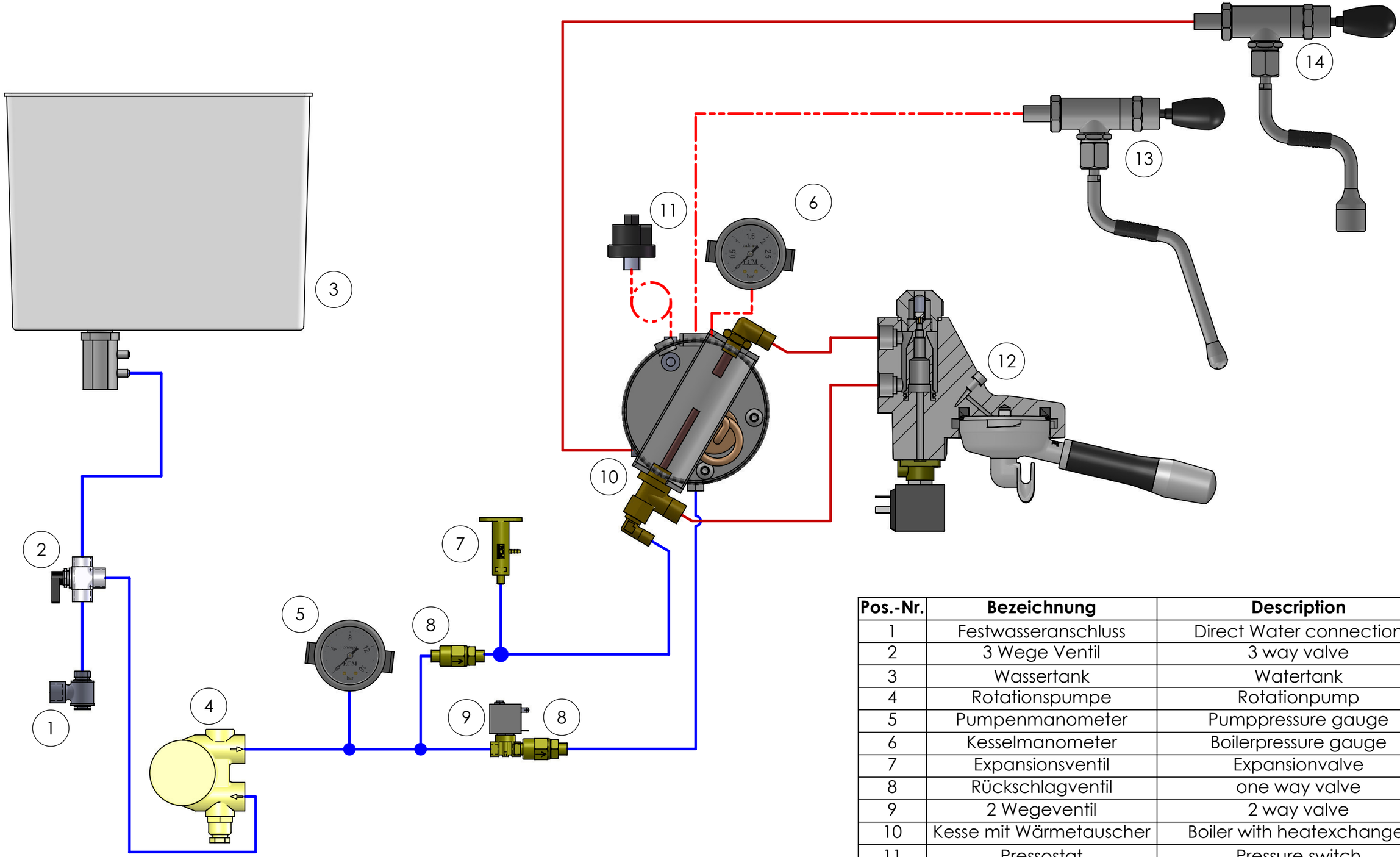
Hydraulikplan Zweikreismaschine

Hydraulic scheme Heatexchanger



Pos.-Nr.	Bezeichnung	Description
1	Festwasseranschluss	Direct Water connection
2	3 Wege Ventil	3 way valve
3	Wassertank	Watertank
4	Rotationspumpe	Rotationpump
5	Pumpenmanometer	Pumppressure gauge
6	Kesselmanometer	Boilerpressure gauge
7	Expansionsventil	Expansionvalve
8	Rückschlagventil	one way valve
9	2 Wegeventil	2 way valve
10	Kesse mit Wärmetauscher	Boiler with heatexchanger
11	Pressostat	Pressure switch
12	E61 Brühgruppe	E61 brewing group
13	Dampfventil	Steam valve
14	Heißwasserventil	Hot water valve

_____	kaltes Wasser	cold water
_____	heißes Wasser	hot water
- - - - - - - - - -	Dampf	steam

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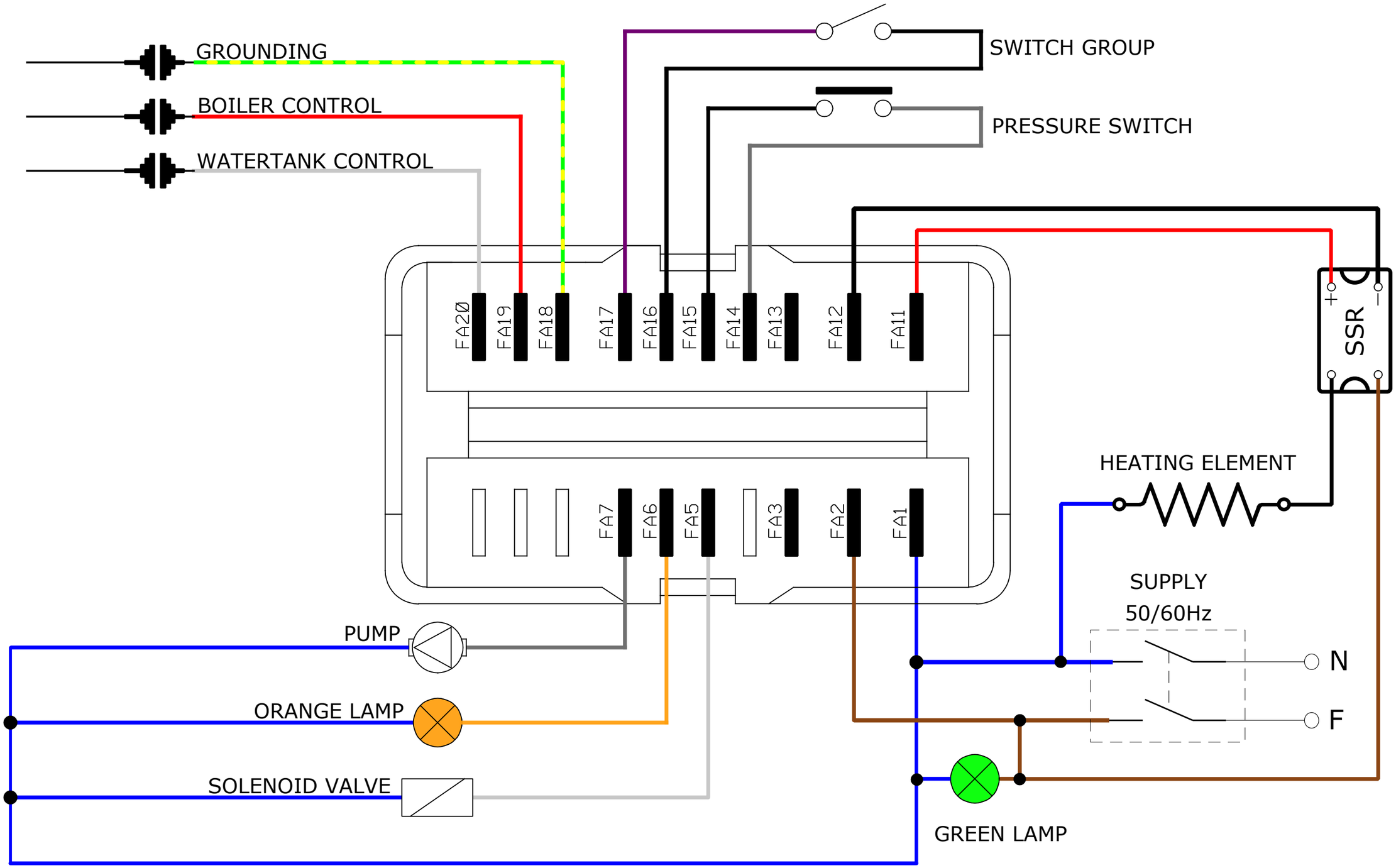
Hydraulikplan Zweikreismaschine

Hydraulic scheme Heatexchanger



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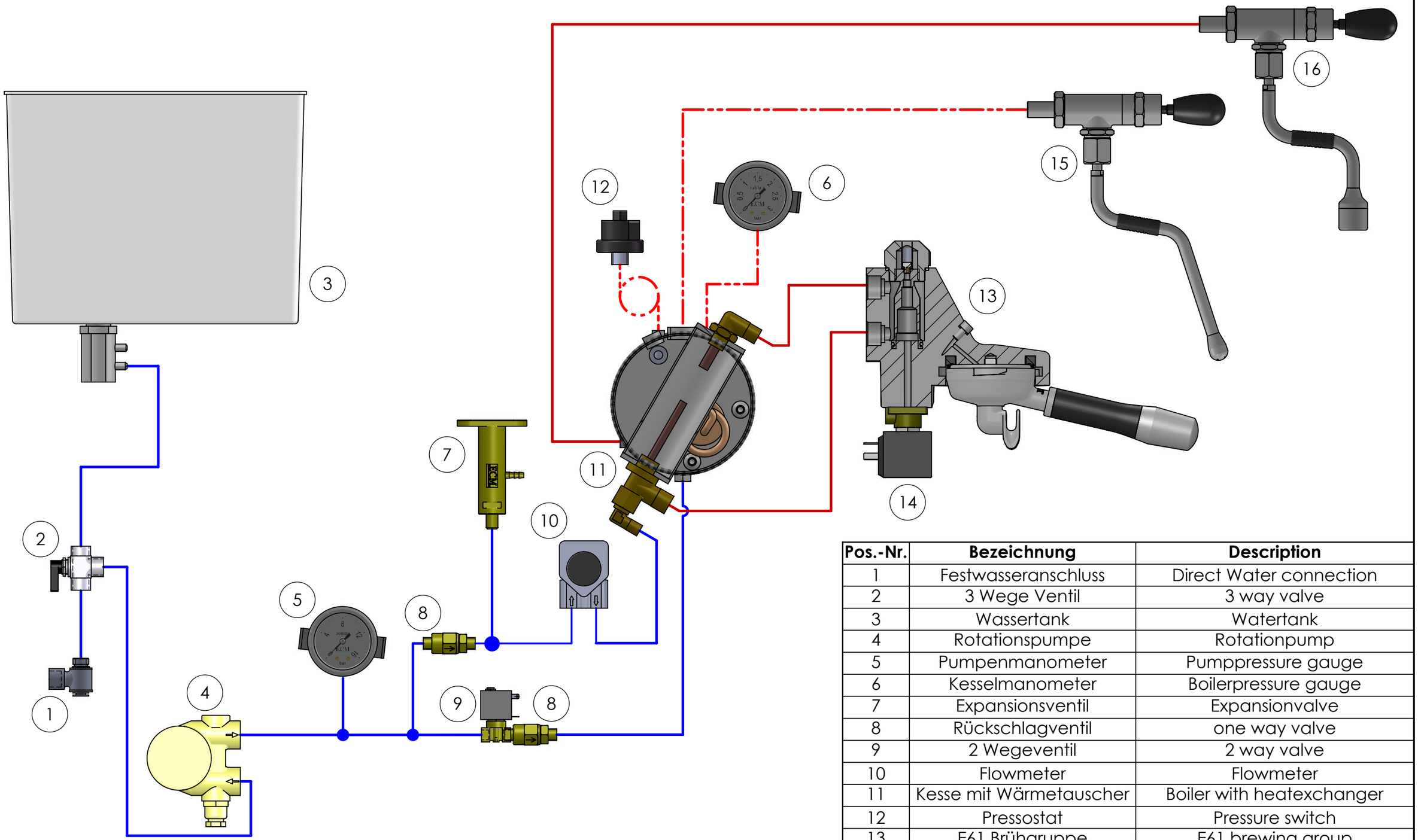

Pos.-Nr.	Bezeichnung	Description
1	Festwasseranschluss	Direct Water connection
2	3 Wege Ventil	3 way valve
3	Wassertank	Watertank
4	Rotationspumpe	Rotationpump
5	Pumpenmanometer	Pumppressure gauge
6	Kesselmanometer	Boilerpressure gauge
7	Expansionsventil	Expansionvalve
8	Rückschlagventil	one way valve
9	2 Wegeventil	2 way valve
10	Flowmeter	Flowmeter
11	Kesse mit Wärmetauscher	Boiler with heatexchanger
12	Pressostat	Pressure switch
13	E61 Brühgruppe	E61 brewing group
14	3-Wege Magnetventil	3-way valve
15	Dampfventil	Steam valve
16	Heißwasserventil	Hot water valve

_____	kaltes Wasser	cold water
_____	heißes Wasser	hot water
- - - - - - - - - -	Dampf	steam

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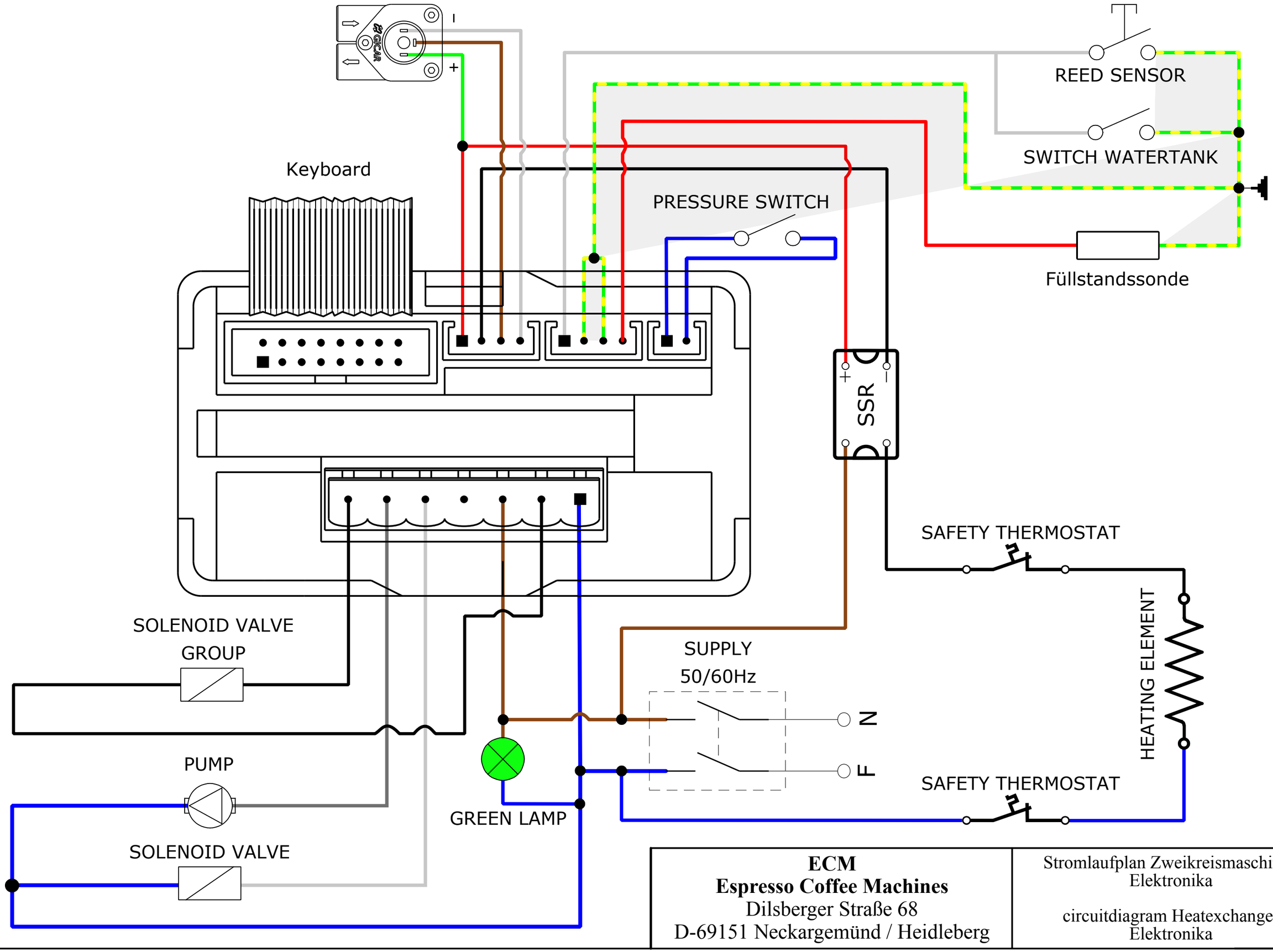
Hydraulikplan Zweikreismaschine Elektronika

Hydraulic scheme Heatexchanger Elektronika



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Stromlaufplan Zweikreismaschinen
Elektronika

circuitdiagram Heatexchanger
Elektronika

Dualboilermaschinen

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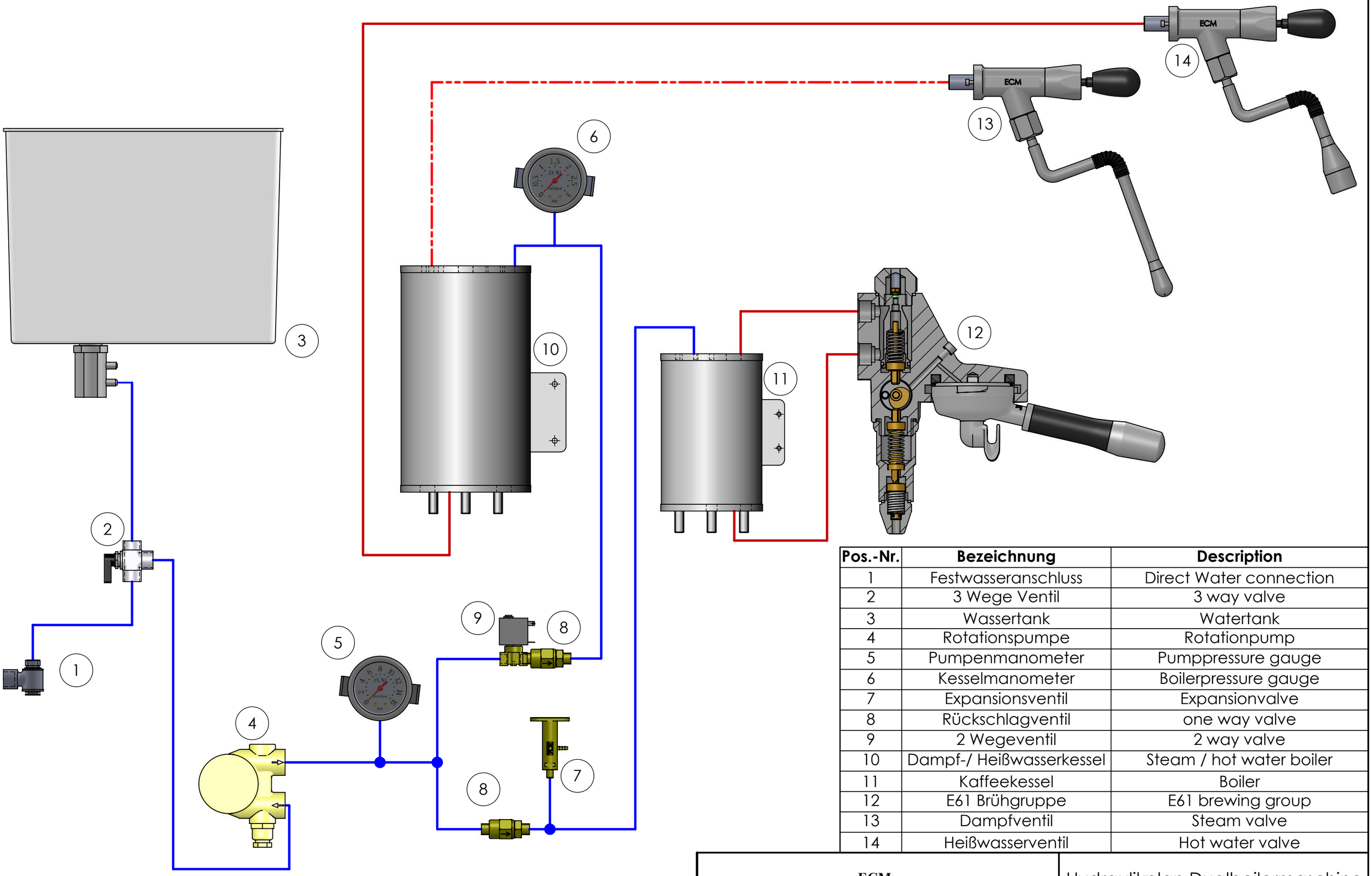

Pos.-Nr.	Bezeichnung	Description
1	Festwasseranschluss	Direct Water connection
2	3 Wege Ventil	3 way valve
3	Wassertank	Watertank
4	Rotationspumpe	Rotationpump
5	Pumpenmanometer	Pumppressure gauge
6	Kesselmanometer	Boilerpressure gauge
7	Expansionsventil	Expansionvalve
8	Rückschlagventil	one way valve
9	2 Wegeventil	2 way valve
10	Dampf-/ Heißwasserkessel	Steam / hot water boiler
11	Kaffeekessel	Boiler
12	E61 Brühgruppe	E61 brewing group
13	Dampfventil	Steam valve
14	Heißwasserventil	Hot water valve

———	kaltes Wasser	cold water
———	heißes Wasser	hot water
----------	Dampf	steam

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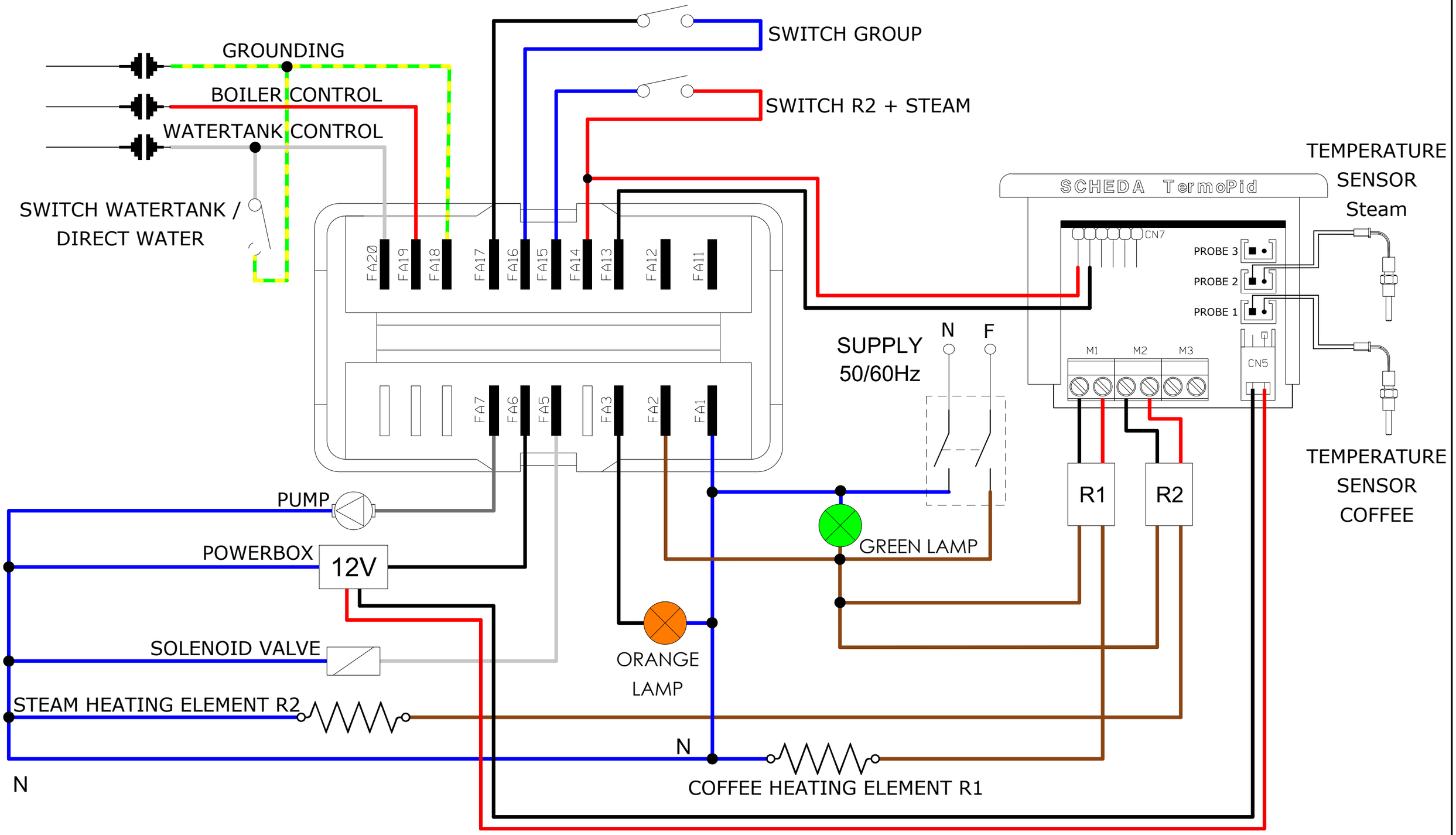
Hydraulikplan Dualboilermaschine

Hydraulic scheme dual boiler



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GROUNDING

BOILER CONTROL

WATERTANK CONTROL

SWITCH WATERTANK /
DIRECT WATER

SWITCH GROUP

FA20 FA19 FA18 FA17 FA16 FA15 FA14 FA13 FA12 FA11

FA7 FA6 FA5 FA3 FA2 FA1

SCHEDA TermoPid

CN7

PROBE 3

PROBE 2

PROBE 1

M1 M2 M3

CN5

TEMPERATURE
SENSOR
Steam

TEMPERATURE
SENSOR
COFFEE

R1

R2

Main switch

Supply 50/60Hz

L1

N

2 1

2 1

PUMP

SOLENOID VALVE

POWERBOX

12V

SWITCH
CONTROVENTO
LAMP

CONTROVENTO
LAMP

ORANGE
LAMP

GREEN
LAMP

SAFETY THERMOSTAT

COFFEE HEATING
ELEMENT R1

SAFETY THERMOSTAT

SAFETY THERMOSTAT

COFFEE HEATING
ELEMENT R1

SAFETY THERMOSTAT

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Stromlaufplan Controvento
Dualboiler

circuitdiagram Controvento
dualboiler

Mehrgruppige Maschinen

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_____	kaltes Wasser	cold water
_____	heißes Wasser	hot water
----------	Dampf	steam

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Hydraulikplan Compact HX 2

Hydraulic scheme Compact HX2

Main switch

Pressure switch

Supply 50/60Hz

N

L2

L1

1

2

2

1

2

Safety thermostat

Heating element

Pump

Solenoid valve Group1

Solenoid valve Group2

Solenoid valve boiler

CN1: Keyboard Group 1

CN2: Keyboard Group 2

Transformer

F1

P1

CN1

CN2

CN3

CN4

CN5

CN6

CN7

CN8

Boiler control

Boiler control min

Boiler

Flowmeter 1

Flowmeter 2

+

−

+

−

serial connector

On board programming

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Stromlaufplan Compact HX

circuit diagram Compact HX

Main switch
Pressure switch
Supply 50/60Hz
N
L2
L1
Red lamp
Safety thermostat
Heating element
Green lamp
Pump
Solenoid valve Group1
Solenoid valve Group2
Solenoid valve Group3
Solenoid valve boiler
Solenoid valve hot water
Solenoid valve mix hot/cold
P
CN1: Keyboard Group 1
CN2: Keyboard Group 2
CN3: Keyboard Group 3
Transformer
F1
P1
CN1
CN2
CN3
CN4
CN5
CN6
CN7
CN8
Boiler control
Boiler control min
Boiler
Flowmeter 1
Flowmeter 2
Flowmeter 3
serial connector
On board programming

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Stromlaufplan Barista A2/A3

circuit diagram Barista A2/A3