

Outline principle

F1345 with SPA and POOL 40 (floating condensing).

Application

Buildings with water-borne heating systems.

Function

This function requires 2 x POOL 40 accessories. Max heat pump size 30 kW.

Two reversing valves can be connected to control part, or all, of the heating medium supply to a pool exchanger. The reversing valves are installed on the heating medium circuit, which normally runs to a radiator system. You determine in the control system how many compressors are permitted to work with pool heating. An external circulation pump (GP10) must be installed for pool operation.

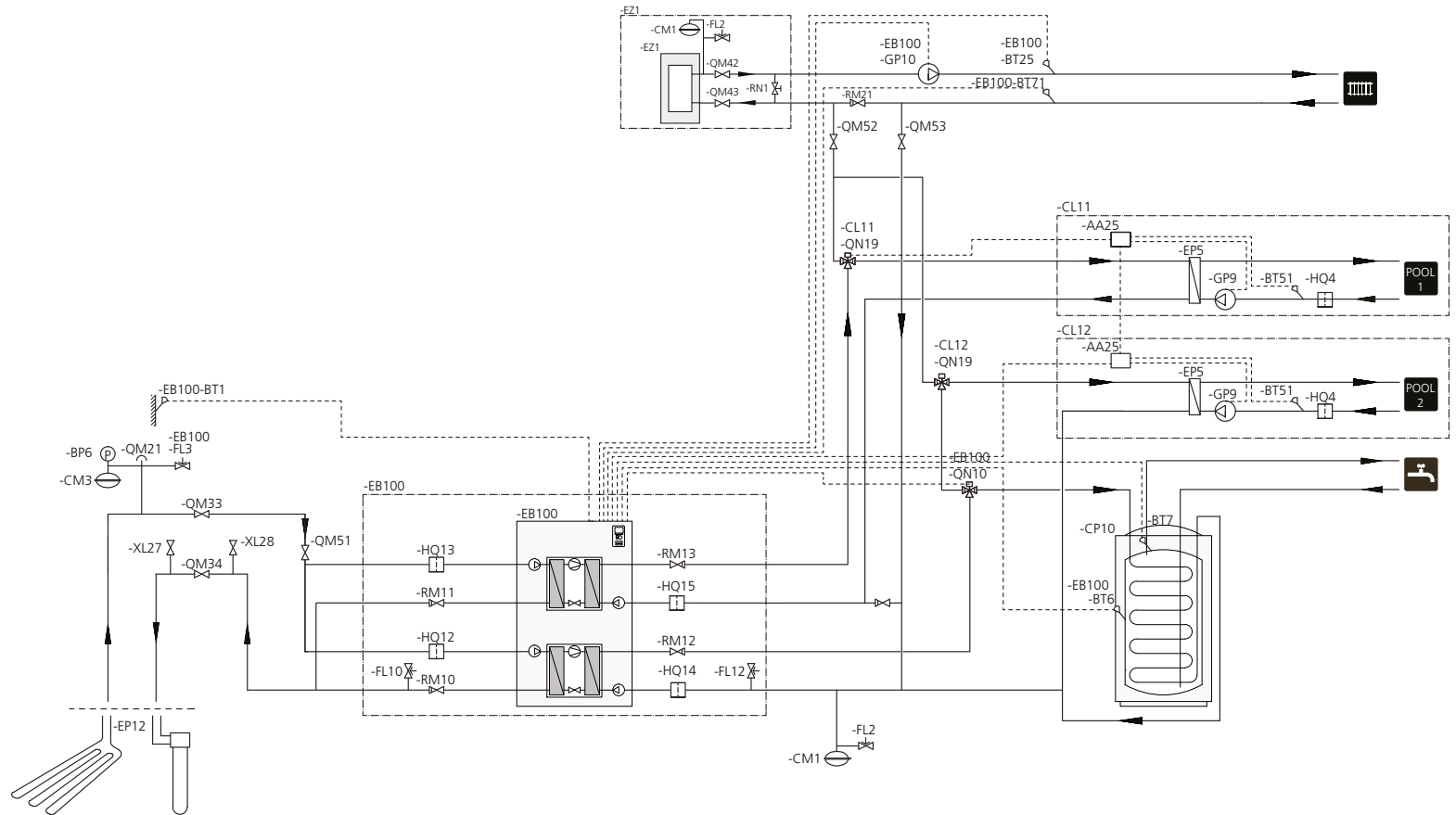
During pool heating the heating medium is circulated between the heat pump and the pool exchanger using the heat pump's internal circulation pumps.

The external circulation pump circulates the heating medium water in the climate systems and the additional heat can be engaged as necessary at the same time as the external supply temperature sensor (BT25) continually meters the heating demand of the house.

If necessary, external additional heat (EB1/EM1/EP1) can be connected.

NOTE! This is an outline diagram. Actual installation must be designed according to applicable norms.

See the appropriate "Installer manual" and/or "Installation and Maintenance Instructions" for more information.



Designations according to standard IEC 81346-1 and 81346-2.

List of Components

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Pos	Name	Specification	Manufacturer	RSK no.	Remarks
CL11-CL12	Pool system 1-2				
AA25	Unit box		NIBE		Included in POOL 40 (Art no. 067 062)
BT51	Temperature sensor, pool		NIBE		Included in POOL 40 (Art no. 067 062)
EP5	Heat exchanger, pool				
GP9	Circulation pump, pool				
HQ4	Particle filter				
QN19	Reversing valve, pool		NIBE		Included in POOL 40 (Art no. 067 062)
RN42	Trim valve				
EB1/EM1/EP1	External addition				
CM1	Expansion vessel, heating medium side				
EB1	Electric boiler				
EM1	Oil/gas boiler				
EP1	District heating				
FL2	Safety valve, heating medium				
QM42-QM43	Shut-off valve				
RN1	Trim valve				
EB100-EB101	Heat pump system				
BT1	Temperature sensor, outdoor		NIBE		Included in F1345
BT6	Temperature sensor, hot water		NIBE		Included in F1345
BT25	Temperature sensor, external supply		NIBE		Included in F1345
BT71	Temperature sensor, external return line		NIBE		Included in F1345
EB100	Heat pump, Master	F1345	NIBE		Max 30 kW
EB101	Heat pump, Slave 1	F1345	NIBE		Max 30 kW
EP14	Cooling module A		NIBE		Included in F1345
EP15	Cooling module B		NIBE		Included in F1345
FL10-FL11	Safety valve, collector side				
FL12-FL13	Safety valve, heating medium side				
GP10	Circulation pump, heating medium external				
HQ12-HQ15	Particle filter		NIBE		Included in F1345
QM50-QM53	Shut-off valve, brine side				
QM54-QM57	Shut-off valve, heating medium side				
QN10	Reversing valve, heating/hot water	VST 20	NIBE	089 388	Max recommended power, 40 kW
RM10-RM13	Non-return valve				
Other information					
BP6	Manometer, brine side				
CM1	Expansion vessel, heating medium side				
CM3	Expansion vessel, brine side				
CP10	Accumulator tank	VPA/VPAS/PB	NIBE		See table on last page.

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EP12	Collector, brine side		
FL2	Safety valve, heating medium		
FL3	Safety valve, brine	NIBE	Included in F1345
QM21	Vent valve, brine side		
QM33	Shut-off valve, brine supply line		
QM34	Shut-off valve, brine return line		
XL27-XL28	Connection, filling brine		

Possible combinations of NIBE F1345 and NIBE's range of accumulator tanks/heaters.

- Heat transfer must be sufficient to retain 53 °C hot water at 10 °C brine with one charging (65 °C brine max).
- Pressure drop over the charge coil (s) must not be greater than the brine pump has capacity for.
- Outputs of less than approx 5 kW / 500 l hot water volume are considered to give recharging times of > approx 5 hrs.

Size of heat pump	Quantity compressors	VPB 200	VPB 300	VPB 500	VPB 750-2	VPB 1000 ¹	VPB 1000 ²	VPA 200/70	VPA 300/200	VPA 450/300	VPAS 300/450
24	1	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
24	2	-	-	at least 2 pcs	at least 2 pcs	OK	at least 2 pcs	-	-	-	-
30	1	at least 2 pcs	at least 2 pcs	OK	OK	OK	OK	at least 2 pcs	OK	OK	OK
30	2	-	-	at least 2 pcs	at least 2 pcs	OK	at least 2 pcs	-	-	-	-
40	1	-	-	at least 2 pcs	OK	OK	-	at least 2 pcs	at least 2 pcs	OK	OK
40	2	-	-	-	-	at least 2 pcs	at least 3 pcs	-	-	at least 2 pcs	at least 2 pcs
60	1	-	-	at least 2 pcs	at least 2 pcs	OK	-	-	at least 2 pcs	at least 2 pcs	at least 2 pcs
60	2	-	-	-	-	at least 2 pcs	at least 4 pcs	-	-	at least 3 pcs	-

¹ Parallel connected charge coils

² Serially connected charge coils