

# Outline diagram

F1145 for heating systems, any accessories as well as additional heaters

## Application

Houses with water-borne heating systems.

## Function

F1145 prioritises hot water charging. The heat pump is controlled by the outdoor sensor (BT1) in combination with the internal flow sensor. The internal immersion heater is connected automatically when the energy requirement exceeds the capacity of the heat pump.

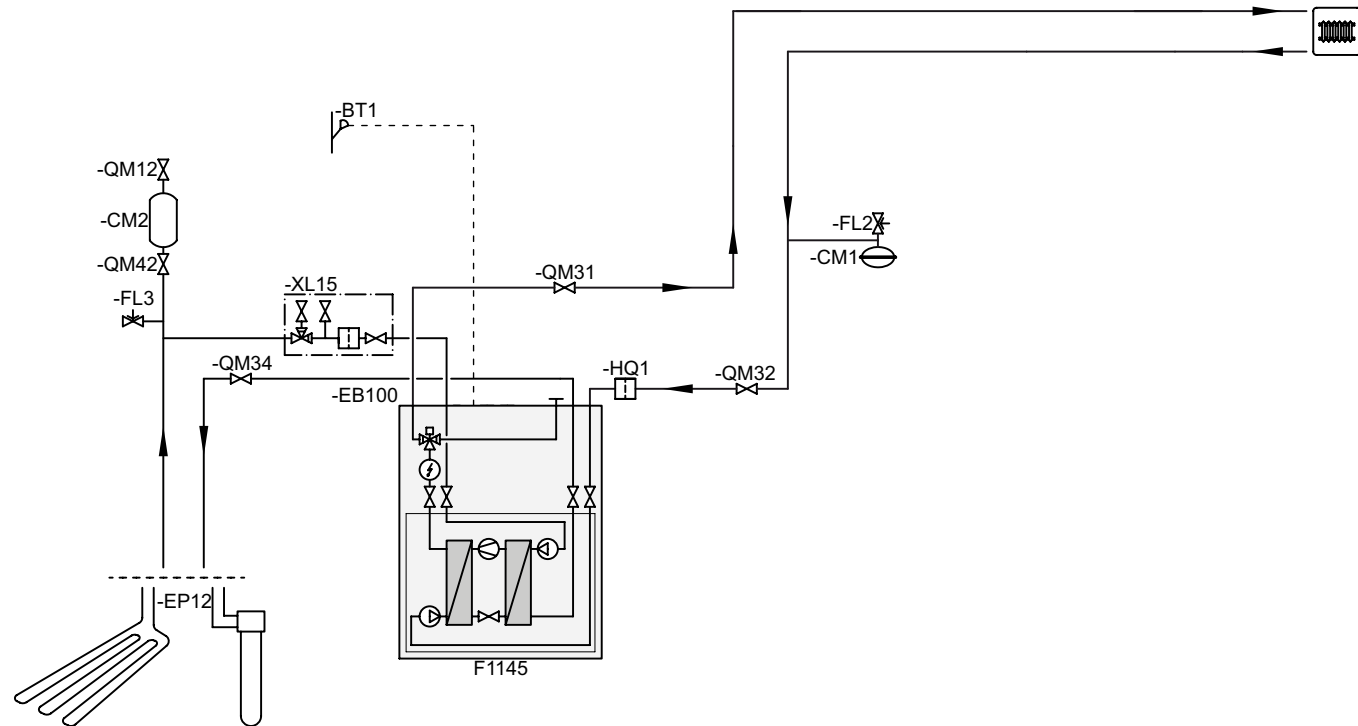
### Heating system 2

The external circulation pump (EP21-GP20) is dimensioned for the under floor heating system's demand. The flow through the heat pump is adjusted using the heat medium pump and any applicable control valve.

**NOTE!!** In cases where the system volume in the heating system is below 20 l/kW (compressor output) and/or heating medium flow is choked uncontrolled, a UKV tank is installed as a volume increaser. For only under floor heating systems and UKV, 3 connections on the UKV tank must be used according to its installation instructions.

Note! This is an outline diagram. Actual installations must be planned according to applicable standards.

See the appropriate "Installer manual" for more information.



Designations according to standard IEC 61346-2

# List of Components

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Pos	Name	Specification	Manufacturer	Art no.	Remarks
BP6	Manometer, Brine				
BT1	Temp.sensor, Outdoor		NIBE		Included in F1145
BT6	Temp. sensor, HW charging		NIBE		Included in F1145
CM1	Expansion vessel, closed, HM				
CM2	Level vessel Brine				Level vessel at open system. Level vessel included in F1145.
CM3	Expansion vessel Brine				Expansion vessel at closed system.
CP1	Hot water heater	VPB 200	NIBE	088 515	
EB100	Heat pump	F1145	NIBE		
EP12	Collector, Brine				
FL2	Valve, Safety, HM				
FL3	Valve, Safety, Brine		NIBE		Included in F1145
HQ1	Particle filter HM		NIBE		Included in F1145
QM12	Valve, Filling, Brine				
QM21	Valve, Bleeding, Brine				
QM31	Valve, Shut-off, HM-f				
QM32	Valve, Shut-off, HM-r				
QM34	Valve, Shut-off, Brine-r				
QM42	Valve, Shut-off, Brine-r				
XL 15	Filling set, Brine <b>Hot water circulation</b>	Brine R25/G32	NIBE	089 368/089 971	KB R25 (max 12 kW), KB G32 (max 30 kW)
AA5	Accessory card	AXC 40	NIBE	067 060	Required if the ground water pump or hot water circulation is to be connected to F1145 at the same time as the buzzer alarm. The relay outputs on the accessory card can have a max load of 2A (230V) in total.
EB2	Water heater				
GP11	Pump, Circulation, HW				
QN12	Valve, 4 way				
QN3	Valve, Regulator				

# List of Components cont'd

F1145 for heating systems, any accessories as well as additional heaters

Pos	Name	Specification	Manufacturer	Art no.	Remarks
QN4	Valve, Regulator				
RM3	Valve, Non-return				
RM4	Valve, Non-return				
<b>Extra Hot Water</b>					
EB2	Hot water heater	COMPACT	NIBE		
<b>Ground water collector</b>					
AA5	Accessory card	AXC 40	NIBE	067 060	Required if the ground water pump or hot water circulation is to be connected to F1145 at the same time as the buzzer alarm. The relay outputs on the accessory card can have a max load of 2A (230V) in total.
EP4	Heat exchanger, groundwater				
EP12	Collector, Brine				
HQ2	Particle filter Brine				
<b>UKV</b>					
CP5	Buffer vessel (UKV)	UKV 100/200/300/500	NIBE		Size varies depending on heat pump and system volume.
<b>Passive cooling</b>					
AA5	Accessory card		NIBE		Included in PCS 44
BT64	Temp. sensor, Cooling flow line		NIBE		Included in PCS 44
BT65	Temp. sensor, Cooling return line		NIBE		Included in PCS 44
EP13	Supply air coil/Fan convector				
EQ1	Passive cooling system	PCS 44	NIBE	067 063	
GP13	Pump, Circulation, cooling		NIBE		Included in PCS 44
QN18	Valve, Mixing, cooling		NIBE		Included in PCS 44
RM5	Valve, Non-return		NIBE		Included in PCS 44
<b>Heating system 2</b>					
AA5	Accessory card		NIBE		Included in ECS 40
BT2	Temp.sensor, HM, Flow		NIBE		Included in ECS 40
BT3	Temp.sensor, HM, Return		NIBE		Included in ECS 40

# List of Components cont'd

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Pos	Name	Specification	Manufacturer	Art no.	Remarks
EP21	Climate system 2	ECS40	NIBE	067 061	
GP20	Pump, Circulation, HM Lower shunt		NIBE		Included in ECS 40
QN11	Valve, Mixing, addition		NIBE		Included in ECS 40
<b>FLM</b>					
AZ1	Air unit	NIBE FLM	NIBE	067 011	
RM6	Valve, Non-return		NIBE		Included in NIBE FLM
RN11	Valve, Adjusting		NIBE		Included in NIBE FLM
<b>Pool</b>					
AA5	Accessory card		NIBE		Included in POOL 40
BT25	Temp.sensor, HM, Flow, External		NIBE		Included in POOL 40
BT51	Temp.sensor, Pool		NIBE		Included in POOL 40
CL11	Pool kit	POOL 40	NIBE	067 062	
EP5	Exchanger pool				
GP9	Pool, pump				
GP10	Pump, Circulation, HM				
HQ4	Particle filter Pool				
QN19	Valve, Three-way		NIBE		Included in POOL 40
RM2	Valve, Non-return				
RN10	Valve, Regulator				
<b>External Electricity/Oil/District heating addition</b>					
AA5	Accessory card	AXC 40	NIBE	067 060	
BT25	Temp.sensor, HM, Flow, External				
BT52	Temp.sensor, Boiler				
CM4	Expansion vessel, closed, HM				
EB1	Immersion heater	ELK 15, ELK 213	NIBE	069 022/069 500	
EM1	Oil, gas, pellets or wood boiler				
EP7	Exchanger, District heating				
FL2	Valve, Safety, HM				

# List of Components cont'd

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Pos	Name	Specification	Manufacturer	Art no.	Remarks
GP10	Pump, Circulation, HM				
KA1	Auxiliary relay	HR10	NIBE	089 423	
QM40	Valve, shut-off				
QM41	Valve, shut-off				
QN11	Valve, Mixing valve, addition				
RM1	Valve, Reversing				
RM5	Valve, Reversing				
RN11	Valve, Adjusting, external				