



ALFÉA EXCELLIA

- Five models: 11 to 16 kW (single and 3-phase)
- Heating curve full inverter regulation
- COP (coefficient of performance) up to 4.3
- Suitable for new build and renovation



Indoor hydraulic module



Outdoor inverter unit

Alféa Excellia



HIGH PERFORMANCE RENOVATION SOLUTION

With a flow temperature of 60°C until -20°C outdoors, Alféa Excellia has a new electronic interface for fine adjustments and management of the thermodynamic cycle components (expansion vessel twin-rotary, re-injection compressor, patented coaxial heat exchanger). Alféa Excellia thus generates a high water temperature while maintaining its rated power level with a low outdoor temperature.

PERFORMANCE COEFFICIENT (COP)

COP is an indicator of the heat pump performance. It corresponds to the difference between the amount of heat generated by the heat pump and the energy consumed for the equipment to work. A COP of 4 means that the heat pump generates four times what it needs to function. So the higher COP is, the more performant, the heat pump is.

**WORKING
TEMPERATURE DOWN
TO - 25 °C
OUTDOOR**

**INVERTER HEAT CONTROL
AND IMPROVED HEAT
EXCHANGER FOR BETTER
ENERGY SAVINGS**

A SPLIT HEAT-PUMP FOR IMPROVED PERFORMANCES



Indoor hydraulic module



Outdoor inverter unit

CHARACTERISTICS

- 60°C flow temperature until -20°C outdoor temperature
- Rated power maintained with negative outdoor temperature.
- Full Inverter water curve control
- Glycol-free, no filter valve or flow rate controller
- COP up to 4.3

SUPPLIES

Inverter outdoor unit:

- Refrigerant circuit uses liquid reinjection technology during compression phase (R410A)
- Twin Rotary compressor
- Double fan
- Full Inverter control

Indoor module:

- Coaxial immersed exchanger in buffer tank
- Water curve control
- Class A circulating pump
- Expansion vessel, valve, etc.
- Auxiliary electric back-up (option)

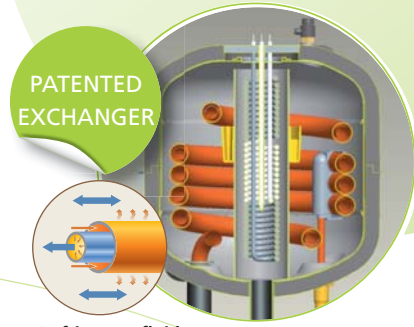
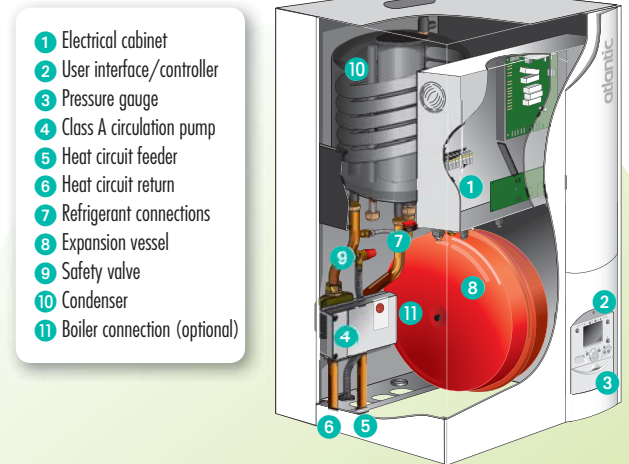
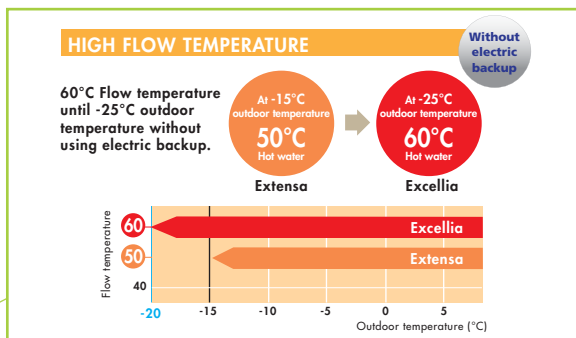
INDOOR HYDRAULIC MODULE

A dedicated hydraulic conception for improved performances

The Alféa range is equipped with a coaxial heat exchanger, a technology developed and patented by Atlantic to maximize the heat pump performance.

Our technology offers unique advantages:

- Low hydraulic resistance
- Antifreeze in the circuit is not necessary
- Not sensitive to polluted heating circuit water
- No clogging in the exchanger
- Stainless steel buffer tank: no corrosion
- Additional electric backup (optional)
- Maintenance trap on the top of the buffer tank

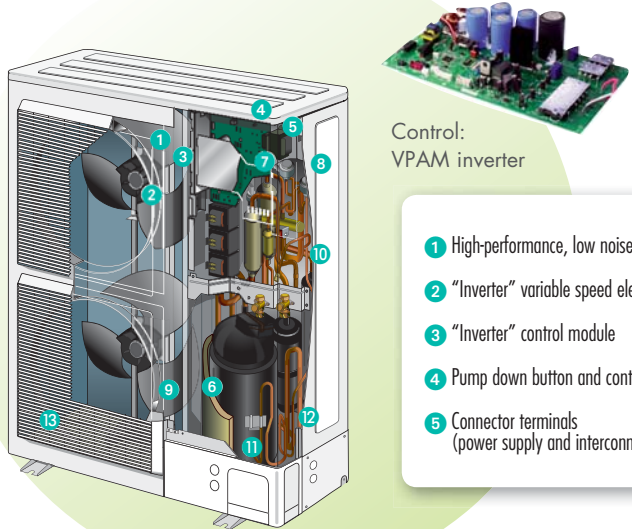


→ Refrigerant fluid
← Hot heating circuit

OUTDOOR INVERTER UNIT

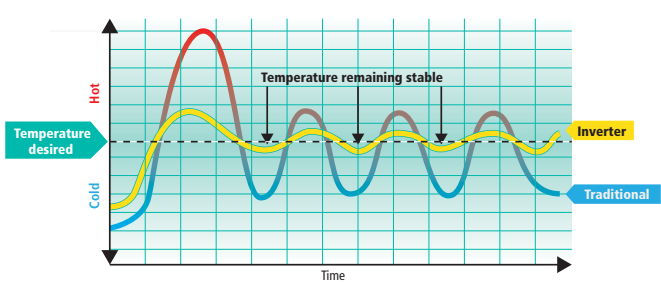
An optimized control to maximize savings

The inverter control adapts its power supply according to outside temperature in order to provide the exact amount of energy for a constant and economical heat. The inverter control allows savings up to 30% compared to a conventional regulation system.



- 1 High-performance, low noise propeller
- 2 "Inverter" variable speed electric motor
- 3 "Inverter" control module
- 4 Pump down button and control diode
- 5 Connector terminals (power supply and interconnection)
- 6 Refrigerant storage cylinder
- 7 Cycle inversion valve
- 8 Anti-corrosion treated metal cover
- 9 High performance evaporator with optimized heat exchange surface; anti-corrosion, hydrophilic aluminium vanes, grooved copper tubes
- 10 Electronic expansion valve
- 11 Phonically and thermally insulated inverter scroll compressor
- 12 Refrigerating connection valves (flare connection) with protective cover
- 13 Condensate basin with drain

Comparison between inverter and traditional heat control

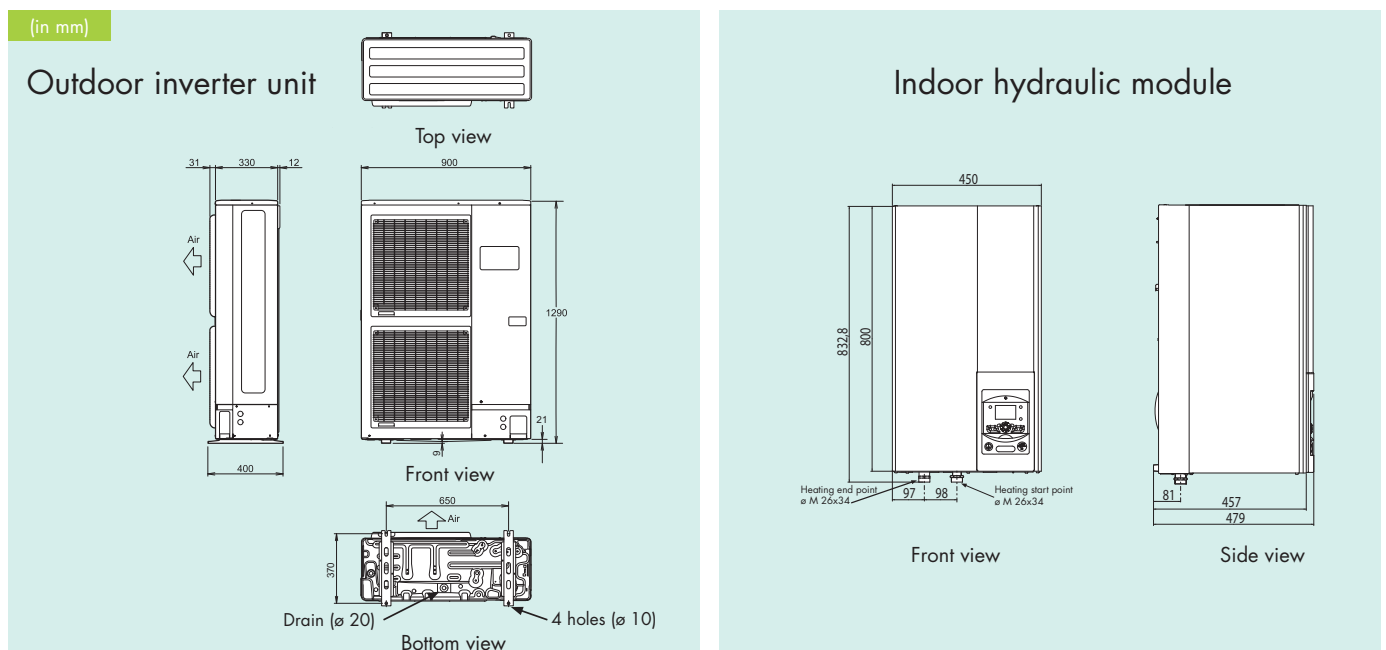


Technical characteristics and performances

	UNIT	ALFÉA EXCELLIA 11	ALFÉA EXCELLIA 14	ALFÉA EXCELLIA TRI 11	ALFÉA EXCELLIA TRI 14	ALFÉA EXCELLIA TRI 16
REFRIGERANT		R410A	R410A	R410A	R410A	R410A
MAIN CHARACTERISTICS						
Heating capacity +7°C/+35°C – Floor Heating	W	10 800	13 500	10 800	13 000	15 170
Input power +7°C/+35°C – Floor Heating	W	2 540	3 230	2 510	3 110	3 700
COP +7°C/35°C - Floor Heating		4.25	4.18	4.30	4.18	4.10
Heating capacity +7°C/+35°C – Low T° radiators	W	10 383	11 537	10 383	12 690	12 979
Input power +7°C/+35°C – Low T° radiators	W	4 320	5 130	4 280	5 130	5 400
COP +7°C/+35°C - Low T° radiators		2.40	2.25	2.43	2.47	2.40
Heating capacity +7°C/+45°C – Low T° radiators	W	9 050	11 316	9 904	12 340	12 747
Input power +7°C/+45°C – Low T° radiators	W	2 818	3 691	2 986	3 810	3 969
COP +7°C/45°C – Low T° radiators		3.21	3.07	3.32	3.24	3.21
Heating capacity +7°C/+45°C – Low T° radiators	W	9 158	11 450	9 983	10 740	12 952
Input power +7°C/+45°C – Low T° radiators	W	4 576	5 920	4 630	5 140	6 370
COP +7°C/45°C – Low T° radiator		2.00	1.93	2.16	2.09	2.03
Heating capacity +7°C / +60°C - High T° Radiators	W	7 048	8 809	9 249	11 500	12 488
Heating capacity -7°C / +60°C - High T° Radiators	W	6 709	8 417	8 480	10 100	10 904
Additional adjustable electric backup in option	W	adjustable 3 000 or 6 000	adjustable 3 000 or 6 000	9 000	9 000	9 000
INDOOR HYDRAULIC MODULE						
Noise level*	dB(A)	39	39	39	39	39
Sound pressure according to EN 12102	dB(A)	46	46	46	46	46
Dimensions h x w x d	mm	800 x 450 x 480	800 x 450 x 480	800 x 450 x 480	800 x 450 x 480	800 x 450 x 480
Net weight/filled weight	kg	42 / 58	42 / 58	42 / 58	42 / 58	42 / 58
HYDRAULIC CHARACTERISTICS						
Buffer tank capacity	l	16	16	16	16	16
Expansion vessel capacity	l	8	8	8	8	8
Heating system min./max. flow for 4° < T < 8° (nominal conditions)	l/h	1 200 / 2 400	1 500 / 3 000	1 200 / 2 400	1 500 / 3 000	1 700 / 3 400
ELECTRICAL CONNECTIONS						
Power supply		230 V 50 Hz	230 V 50 Hz	400 V 50 Hz	400 V 50 Hz	400 V 50 Hz
Standby power consumption	W	5	5	5	5	5
Fuse rating for electric backup (curve C)	A	16 if 3 kW 32 if 6 kW	16 if 3 kW 32 if 6 kW	20	20	20
Heat pump backup heater cable	mm ²	3G6	3G6	4G2.5	4G2.5	4G2.5
HYDRAULIC CONNECTIONS						
Ø Heating circ. inlet and outlet (male thread)	inch	1	1	1	1	1
OPERATING RANGE						
Min./max. hot/cold outdoor temperature	°C	-25 / +35	-25 / +35	-25 / +35	-25 / +35	-25 / +35
OUTDOOR UNIT						
Noise level**	dB(A)	42	43	39	41	42
Sound pressure according to EN 12102	dB(A)	69	70	66	68	69
Dimensions h x w x d	mm	1290 x 900 x 330	1290 x 900 x 330	1290 x 900 x 400	1290 x 900 x 400	1290 x 900 x 400
Operating weight	kg	92	92	99	99	99
REFRIGERANT CHARACTERISTICS						
Gas diameter	inch	5/8	5/8	5/8	5/8	5/8
Liquid diameter	inch	3/8	3/8	3/8	3/8	3/8
Factory charge of HFC R410 A refrigerant	g	2 500	2 500	2 500	2 500	2 500
Min./max. length	m	5 / 20	5 / 20	5 / 20	5 / 20	5 / 20
Max. diff. in height	m	20	20	20	20	20
Maximum length without additional charging	m	15	15	15	15	15
Mass of gas to be added per additional	g	50	50	50	50	50
ELECTRICAL CONNECTIONS						
Power supply		230 V 50 Hz	230 V 50 Hz	230 V 50 Hz	230 V 50 Hz	230 V 50 Hz
Standby mode consumption	W	7.5	7.5	11.5	11.5	11.5
Rated current	A	11.2	14.3	3.6	4.8	5.5
Maxi current	A	21	25	10.5	10.5	10.5
Circuit breaker rating curve D	A	32	32	20	20	20
Outside unit power supply cable	mm ²	3G6	3G6	5G2.5	5G2.5	5G2.5
Outside unit/Indoor module interconnection cables	mm ²	4G1.5	4G1.5	4G1.5	4G1.5	4G1.5

*sound pressure level at 1 m from the device, 1.5 m from the ground, free field directivity 2. - **sound pressure level at 5 m from the appliance, 1.5 m from the ground, free field, directivity 2.

Dimensions

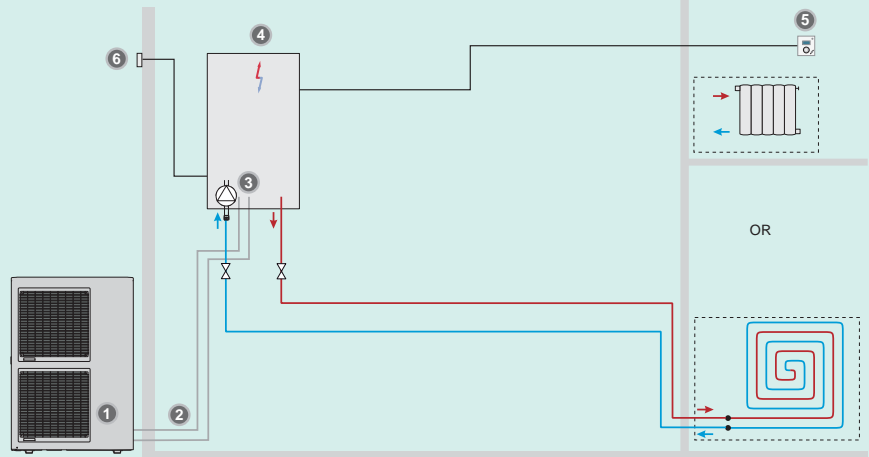


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INSTALLATION SCHEMES

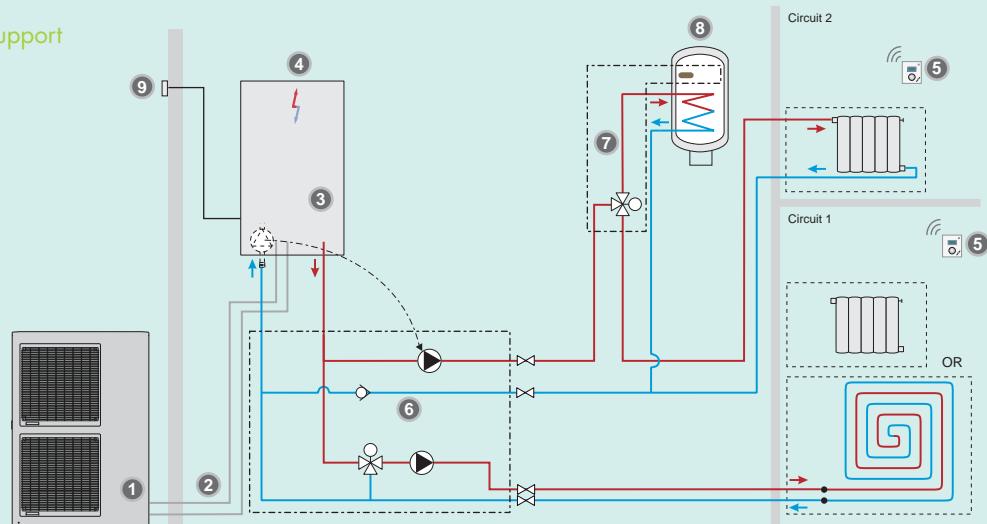
A - Alféa Excellia: 1 heating zone

- ① Outdoor unit
- ② Refrigerating connections
- ③ Hydraulic module
- ④ Back up heater
- ⑤ Room control unit
- ⑥ Outdoor sensor



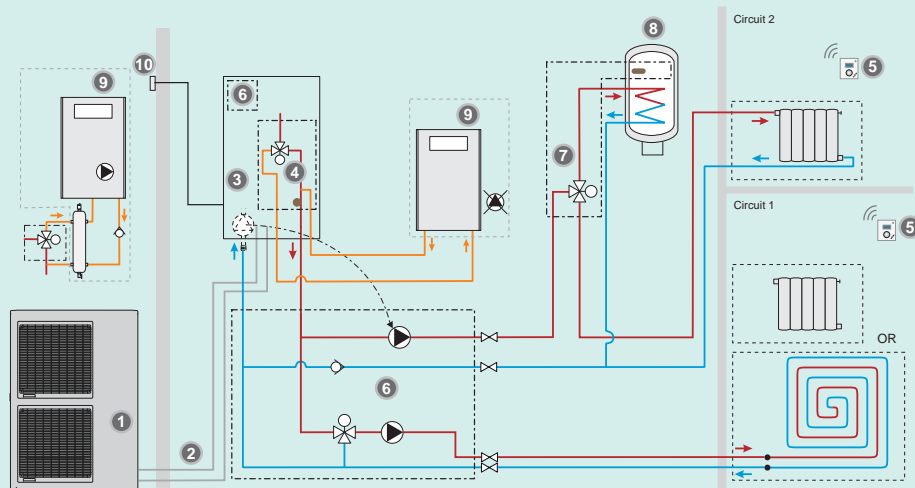
B - Alféa Excellia: 2 heating zones and DHW production

- ① Outdoor unit and ground support
- ② Refrigerating connections
- ③ Hydraulic module
- ④ Back up heater
- ⑤ Room radio control unit
- ⑥ 2nd zone kit
- ⑦ DHW kit
- ⑧ Water tank
- ⑨ Outdoor sensor



C - Alféa Excellia: Boiler and 2 heating zone + DHW production

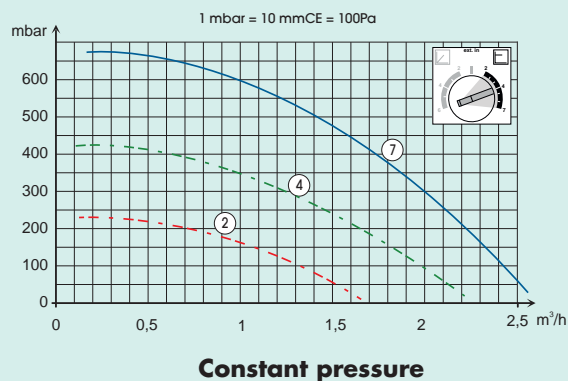
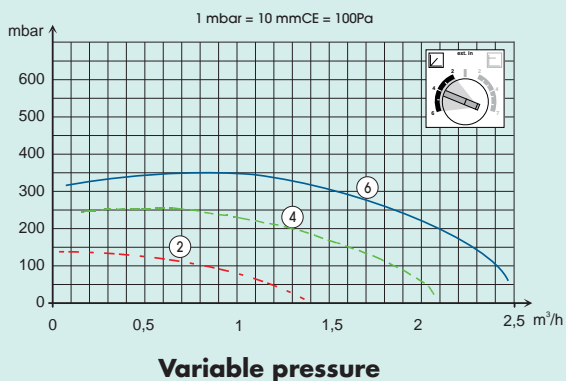
- ① Outdoor unit and ground support
- ② Refrigerating connections
- ③ Hydraulic module
- ④ Boiler connection kit
- ⑤ Room radio control unit
- ⑥ 2nd zone kit
- ⑦ DHW kit
- ⑧ Water tank
- ⑨ Boiler
- ⑩ Outdoor sensor



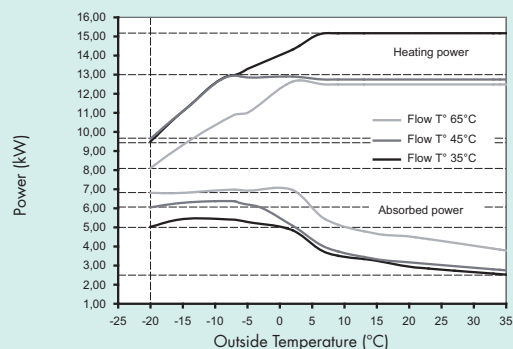
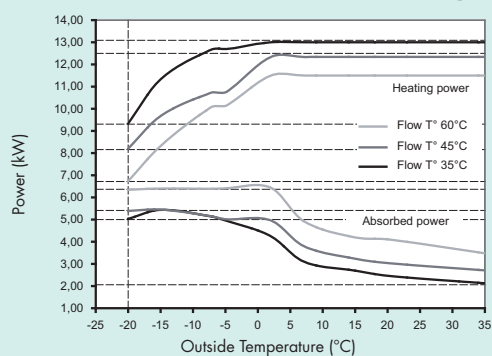
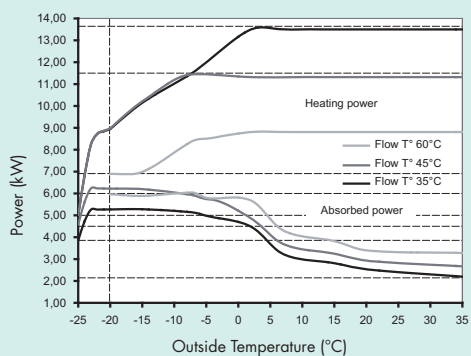
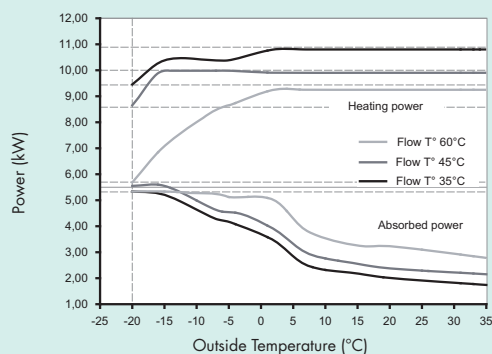
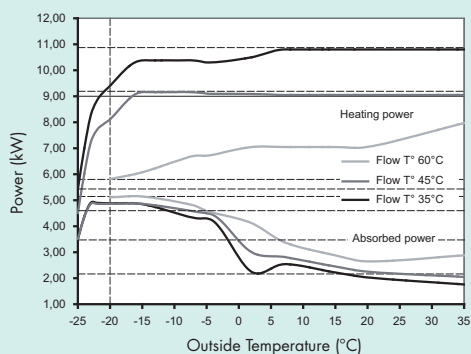
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POWER CURVES

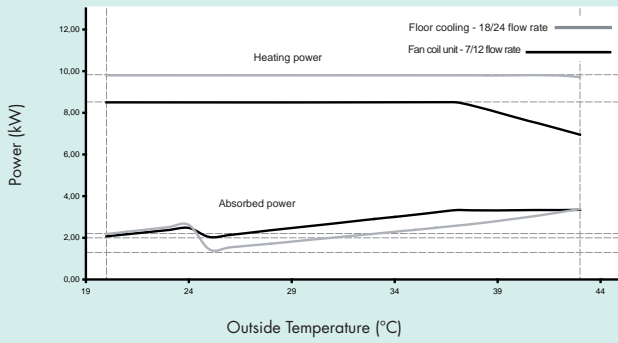
Pressure curves circulating pump



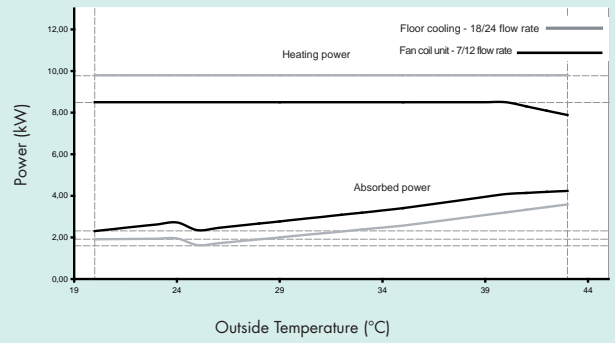
Heating and absorbed power curves



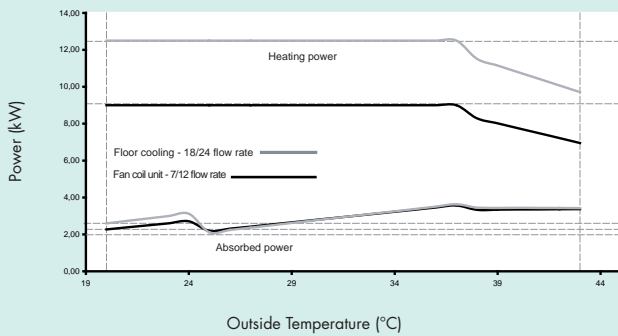
Power curves - cooling mode



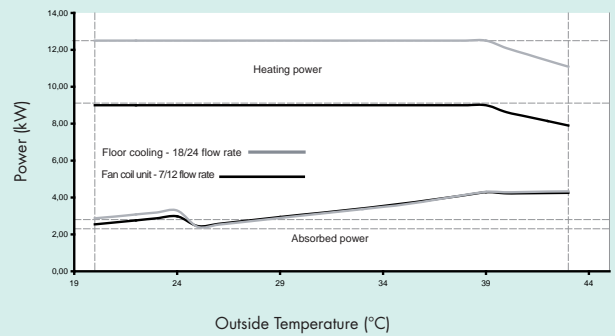
Power curves Alféa Excellia 11



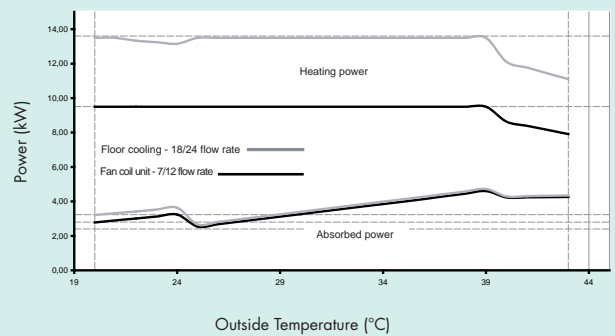
Power curves Alféa Excellia 11 3-phase



Power curves Alféa Excellia 14



Power curves Alféa Excellia 14 3-phase



Power curves Alféa Excellia 16 3-phase