



POMPE de CĂLDURĂ NIBE

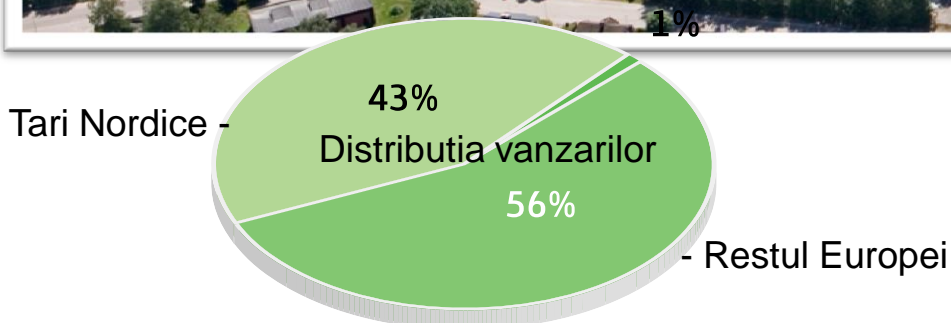




NIBE - Markaryd, Sweden



- Peste 60 ani experienta domeniul rezidential si comercial;
- Lider de piata in tarile nordice si unul din lideri pentru restul Europei;
- Cifra afaceri grupul NIBE – peste 1,5 Miliarde Euro in 2015;
- Prezenta – 5 continente;
- Peste 11000 angajati in Europa, America de Nord, Asia, Australia



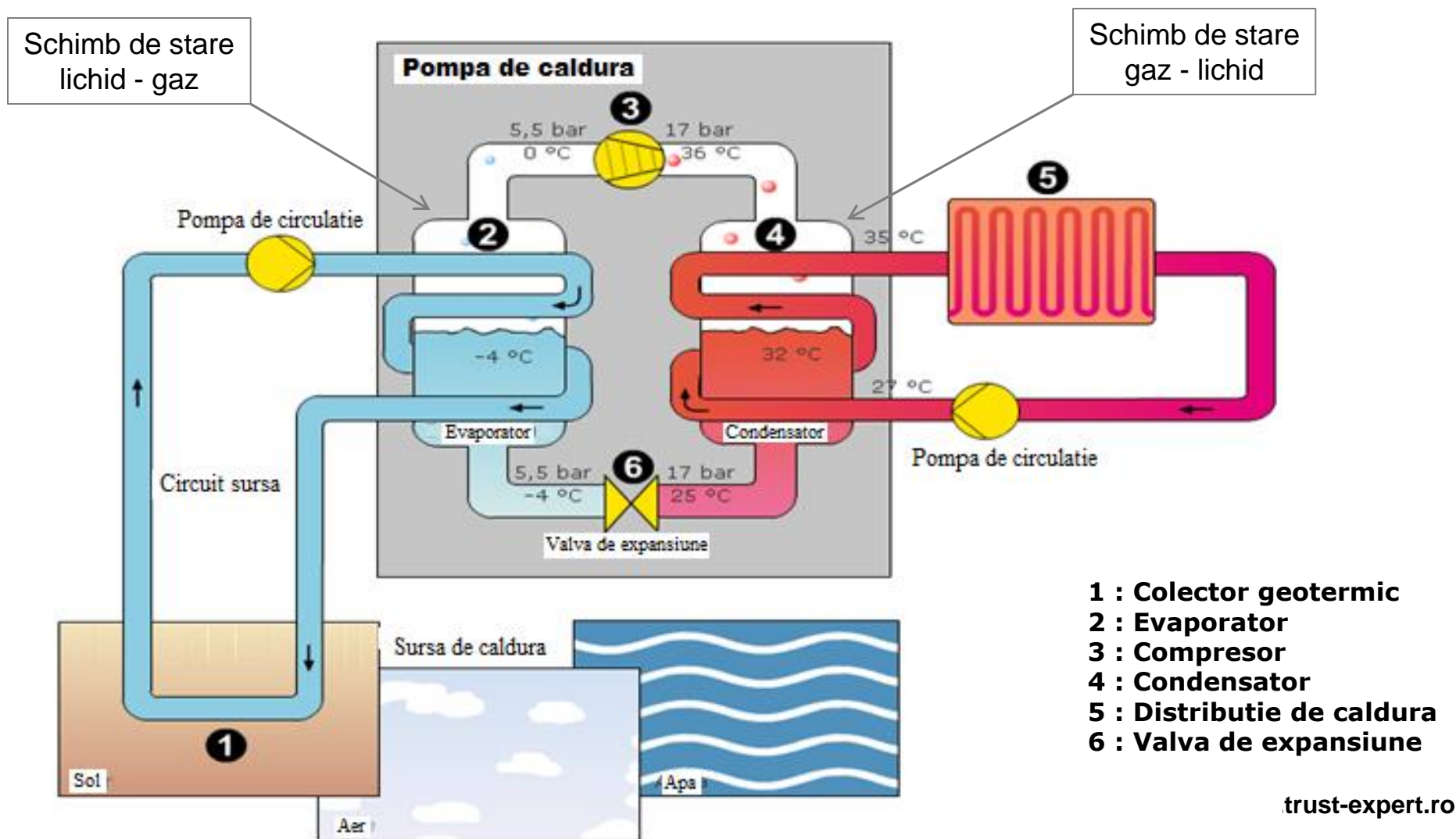


TRUST Euro Therm – Piatra Neamt, Romania



- Sediul central 7500 mp;
- 11 filiale – acopera intreg teritoriul tarii;

Funcționarea unei pompe de căldură



Pompe de căldură sol - apă

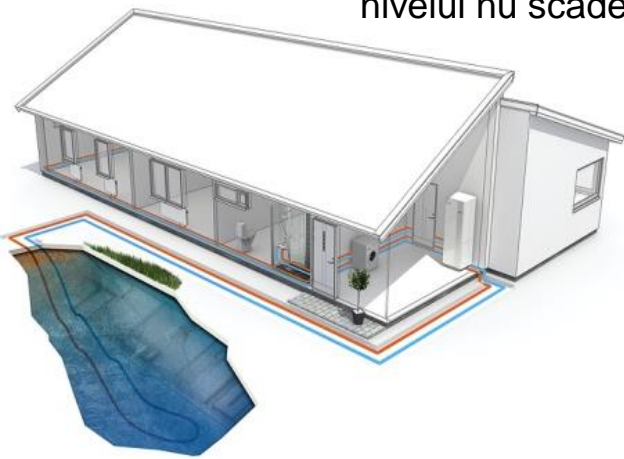
Colector de suprafata

- tevi PE la o adancime de 90 - 180 cm. Fluidul circula prin tevi in sistem inchis. 35 - 52 metri pentru 1 Kw.



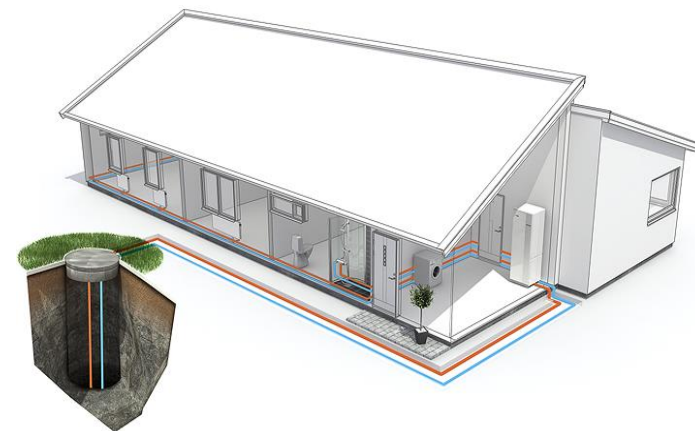
Colector in lac

- tevi din PE; recomandat in cazul in care nivelul nu scade sub 180-240cm



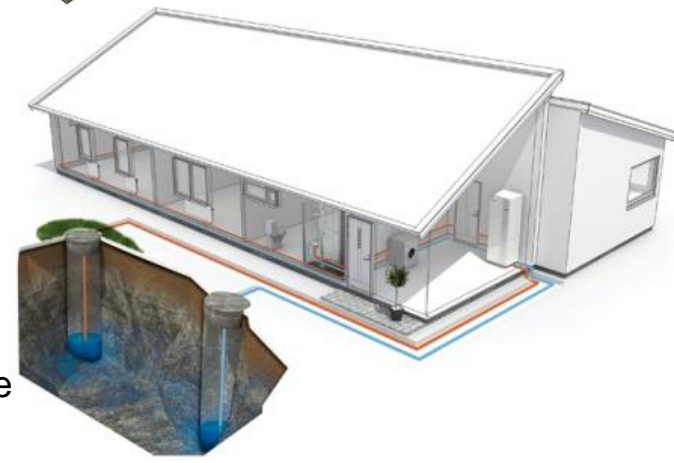
Sonda verticala

- colector din teava PE imersat intr-un put forat in sol. 100 m adâncime ar da 3 - 4 kW (max.5kW)

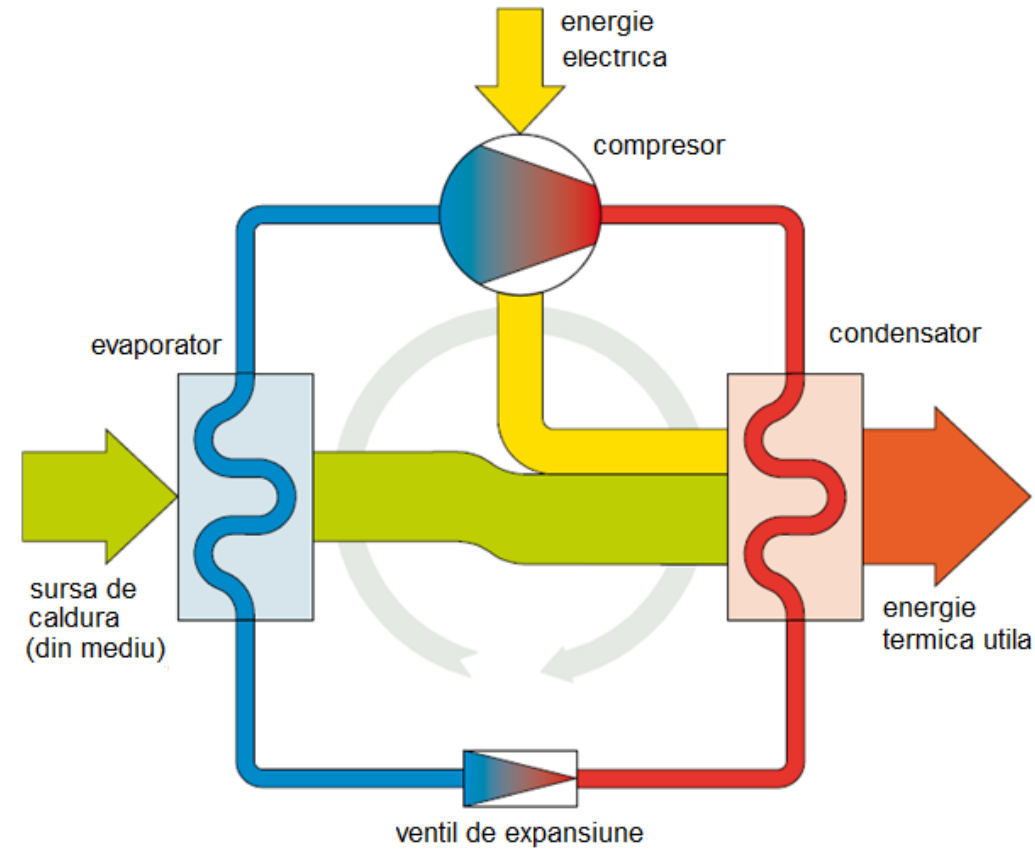
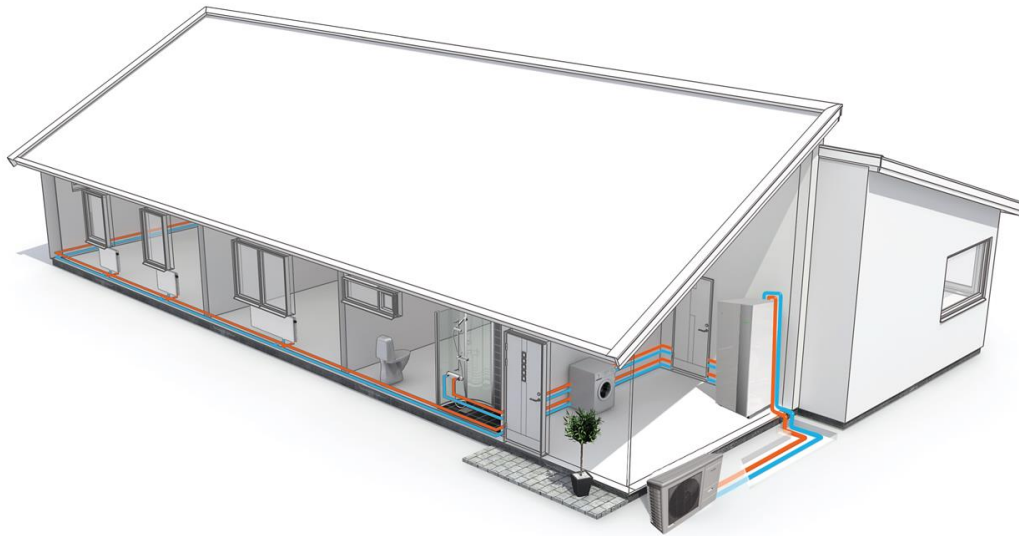


Apa subterana

- 1 mc/h de apa poate da 3,5 - 4,5 kW
- daca apa din sol este in cantitate mare



Pompe de căldură aer – apă NIBE monobloc





Pompe de caldura sol – apa: gama

min. brine out

Setting range: -12 – 15 °C

Default value: -8 °C

max brine in

Setting range: 10 – 30 °C

Default value: 20 °C



NIBE™ F1145
NIBE™ F1155



NIBE™ F1145 PC



NIBE™ F1245
NIBE™ F1255



NIBE™ F1245 PC
NIBE™ F1255-6 PC

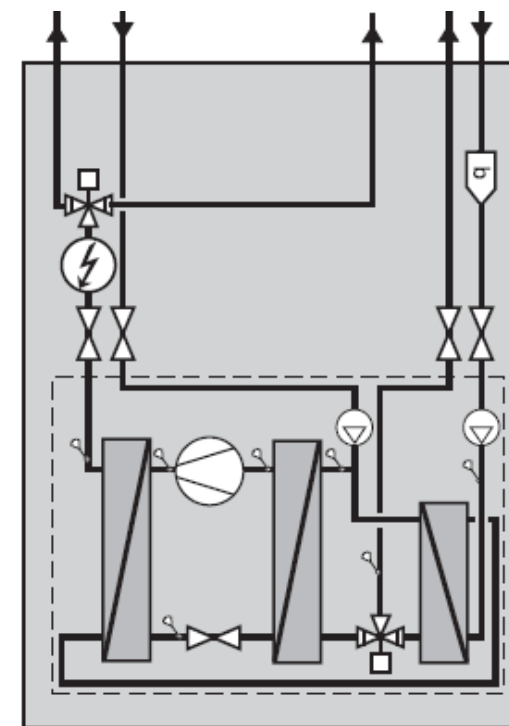
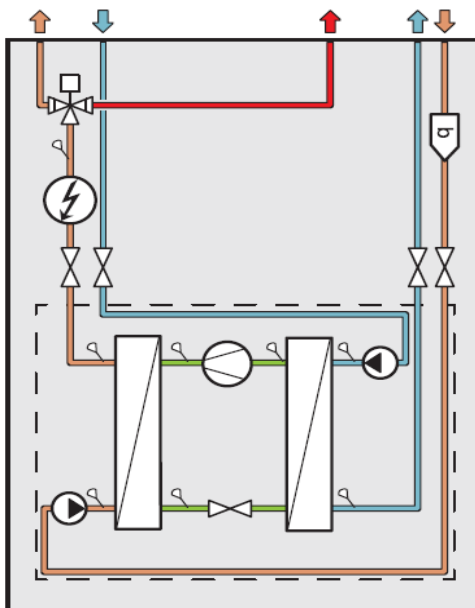


NIBE™ F1345
www.trust-expert.ro

NIBE F1145

- O noua generatie de pompe de caldura
- Nivel de zgomot deosebit de redus <28dB
- Modele:
 - Monofazat : 5, 8, 12 kW
 - Trifazat : 6, 8, 10,12,15,17 kW
- Include standard : modul electric suplimentar (2/4/6/9kw-380V - 1/2/3/4/5/6/7kw-220V), pompe de circulatie (clasa A, turatie variabila), vana de deviatie acm, sistem de control;

- Agent termic max.65°C (70°C cu modulul electric)



**F1145 PC: 5, 6, 8, 10 kw
pasive cooling**



NEW



NIBE F1345

- Solutia perfecta pentru cladiri cu necesar termic mare;
- Gama de puteri: 24 Kw, 30 Kw, 40 Kw, 60 Kw;
- Posibilitate de legare in cascada pana la 540 Kw;
- COP ridicat – realizeaza economie si amortizare rapida;
- Temperatura mare de functionare (pana la 65 °C)
- Modul de comanda cu display multicolor, instructiuni si suport in mai multe limbi;
- Interfata de conectare universala (1 port USB);
- Nivel de zgomot remarcabil de mic;
- Design elegant;
- Unitatea de comanda permite conectarea mai multor module optionale pentru diferite aplicatii;



F2120

8-12-16-20



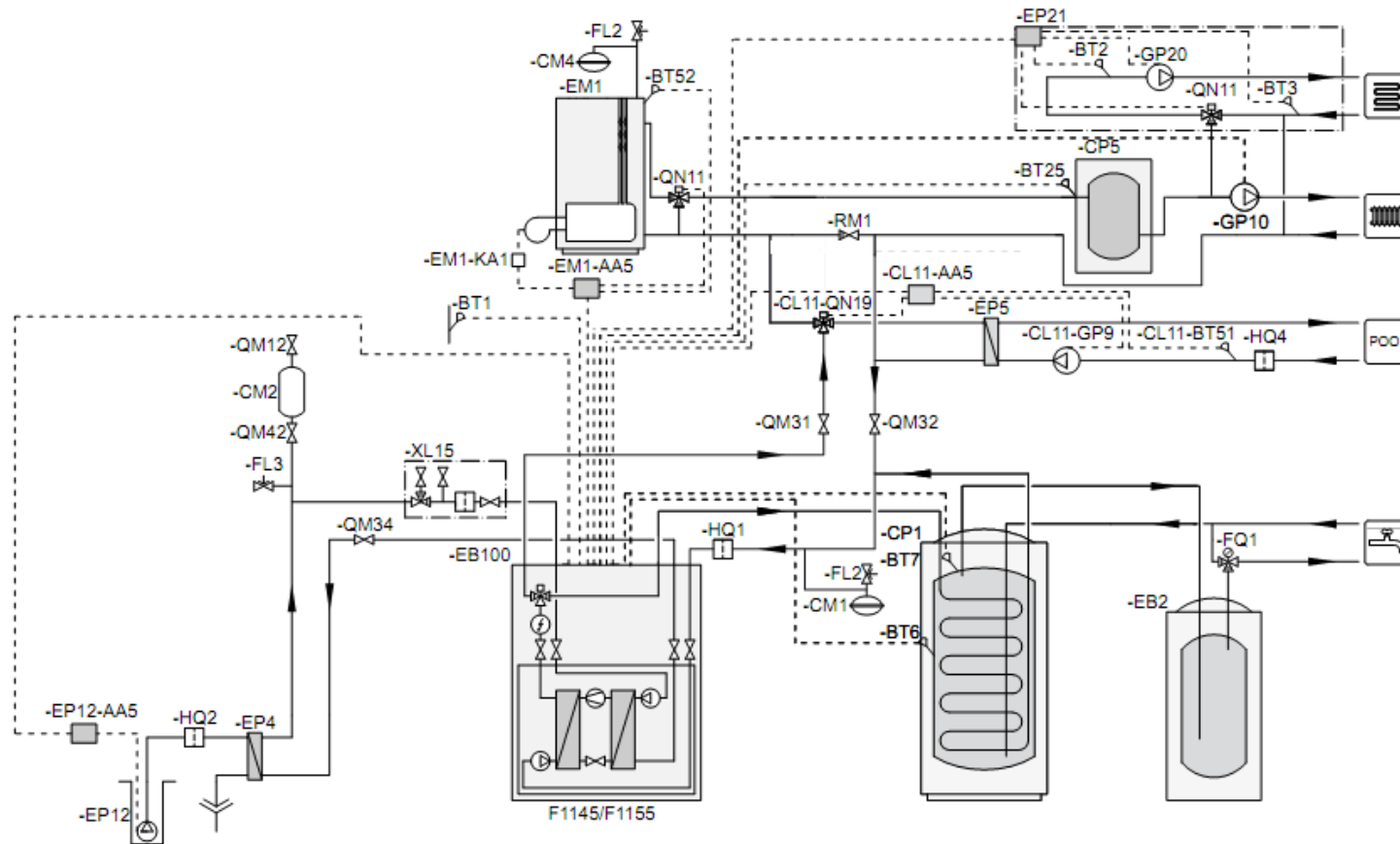
- **DEOSEBIT DE EFICIENTA**
Pompa de caldura inverter, Aer/apa, cu un coeficient SCOP mai mare de 5,0. Clasa de eficienta energetica – pana la A+++
- **LIMITE DE FUNCTIONARE - LIDER IN CLASA SA**
Pana la 65°C temperatura maxima pe tur si un senzational 63°C la minimul de -25°C temperatura exterioara
- **EXTREM DE USOR DE INSTALAT**
Sistemul de control cu autoreglare
- **CONEXIUNE TRIFAZATA PENTRU TOATE MODELELE**
Nu este necesara marirea sigurantelor sau reconstruirea sistemului electric
- **MAI PUTIN ZGOMOT ATUNCI CAND CONTEAZA**
Ventilatorul silentios si controlerul inteligent pastreaza nivelul de zgomot la minim – chiar si la incarcare maxima
- **NIBE UPLINK™**
Prin internet se poate vedea rapid starea functionarii ura



Copeland EVI Compressor

Injectia de vapori de freon in compresorul scroll ofera avantajul unei mai mari cantitati de caldura produsa si un COP mai bun decat la o pompa de caldura cu ciclu conventional.

Scheme functionale – control instalatie



Studiu caz – pensiune Pitesti



Date cladire

- Suprafata utila 440 mp;
- Zidarie caramida Porotherm 35, izolatie polistiren 10;
- Tamplarie geam tripan;
- Inaltime camere 2,9 m;
- Necesari de caldura calculati ~ 27,5 Kw; in proiect prevazut cazan electric 50 Kw

Studiu caz – pensiune Pitesti

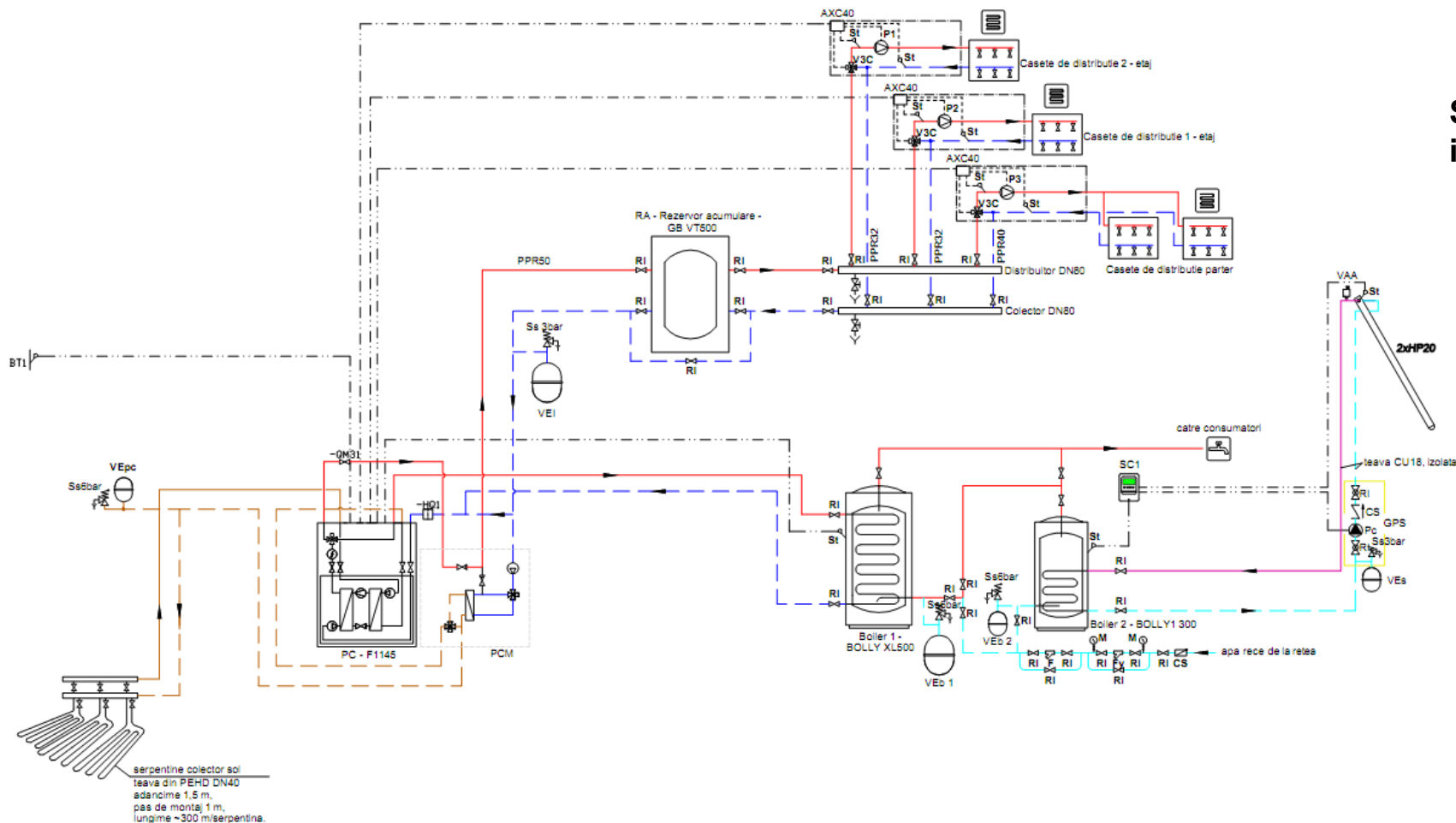


Echipamente instalate

- Pompa de caldura geotermala F 1145-17;
- Vas tampon GB-VT 500;
- Modul racire pasiva PCM;
- Boiler preparare acm 500l – pentru pompa de caldura;
- Boiler preparare acm 300 l – pentru panouri solare (preincalzire);
- Module hidraulice de amestec pentru circuitele de incalzire / racire in pardoseala;

Studiu caz – pensiune Pitesti

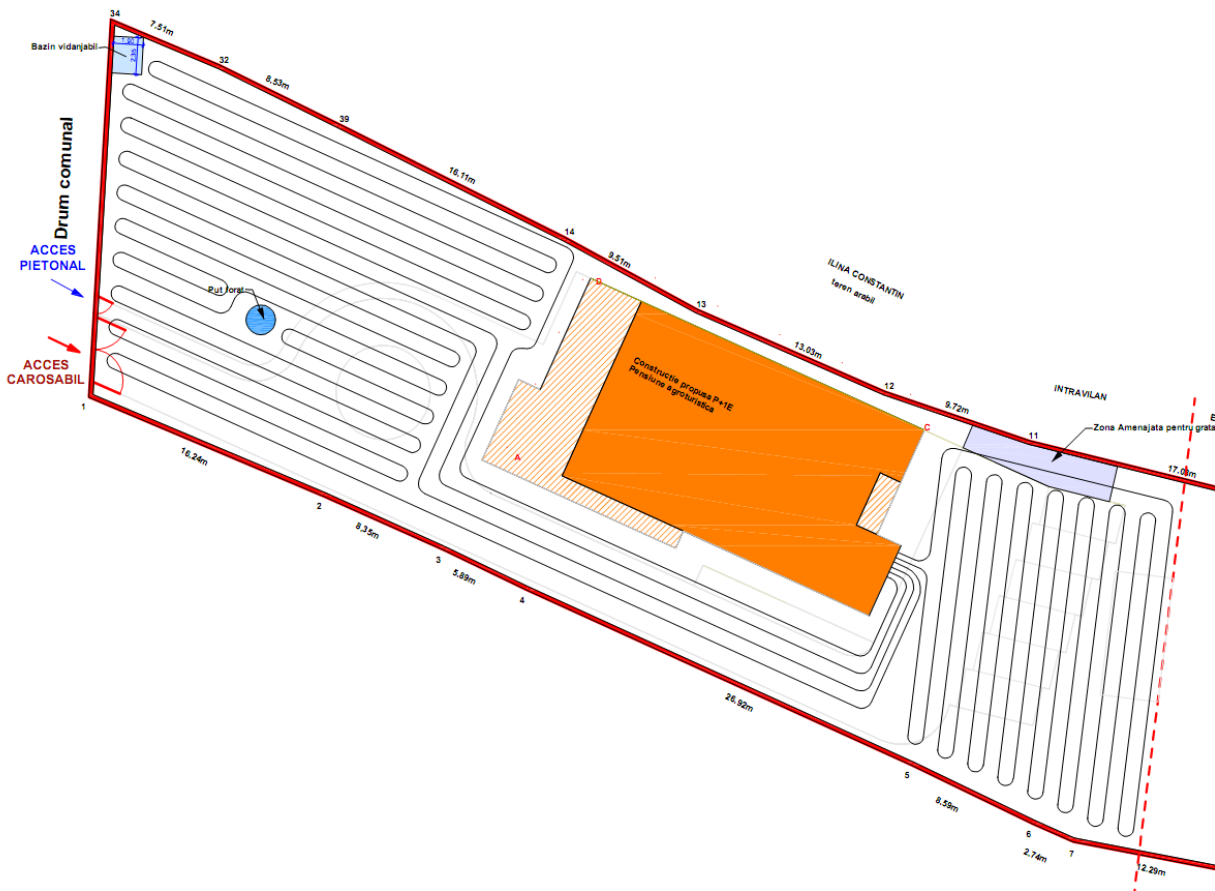
**Schema
 instalatiei**



Studiu caz – pensiune Pitesti

Sursa exterioara de caldura

- Serpentina ingropata in sol la adancimea de 1,5 m;
- 3 serpentine de 300 m fiecare;
- Teava PE 80 DN 40



Studiu caz – pensiune Pitesti



Instalatia interioara de incalzire / racire

- Incalzire / racire prin pardoseala, sistem HENCO, toata suprafata;
- Tub multistrat HENCO FLOOR D16mm;
- Pas montaj 10 – 15 cm;



Studiu caz – pensiune Pitesti



Costuri investitie

- Echipamente CT, instalatie solara, incalzire in pardoseala = 124.000 Lei;
- Serpentina exterioara = 11.300 Lei;
- Manopera montaj = 17.000 Lei;
- TOTAL investitie = 152.300 Lei.
- Instalatie executata in 2015

NIBE DIM [Version: 1.24.0.1]

NIBE

Biro Marian
marian.biro@trust-expert.ro
SC TRUST EURO THERM SRL
Piatra Neamt

Customer
Living conditions
Power profile
Heat pump setup
Heat pump summary
Costs summary
Energy label
Quotation
Quotation summary
Print settings

HEAT PUMP SETUP

Heat exchanger method: Floating (selected), Fixed

Collector: Rock, Surface soil (selected), Ground water, Lake, Ventilation, Outdoor air, Exhaust air

Select heatpump: One heatpump (selected), Several heatpumps, Show all

Surface soil parameters

Soil type: Default (selected), Misc ground type

Thermal conductivity: 1,9 W/m·°C

Latent heat: 150 kJ·kg⁻¹

Incoming brine mean temperature: 1,0 °C

NIBE F1145-17

Energy chart | Temperatures chart

Energy coverage	97%	Power coverage	59%	Surface soil collector	
Energy delivered	55064 kWh	Hours in operation	3188 h	Hose length	895 m
Energy supplied	13695 kWh	HP covers to	-3 °C	Specific energy extraction	47 kWh/m
Supplementary energy	1567 kWh	Power at DOT	16,2 kW	Specific power extraction	15 W/m
Heating circulation pump	461 kWh	Degree hours	53997 K·h		
Recommended net supply power	11,4 kW	Annual heating factor	4,0		
		Estimated max power demand	27,6 kW		

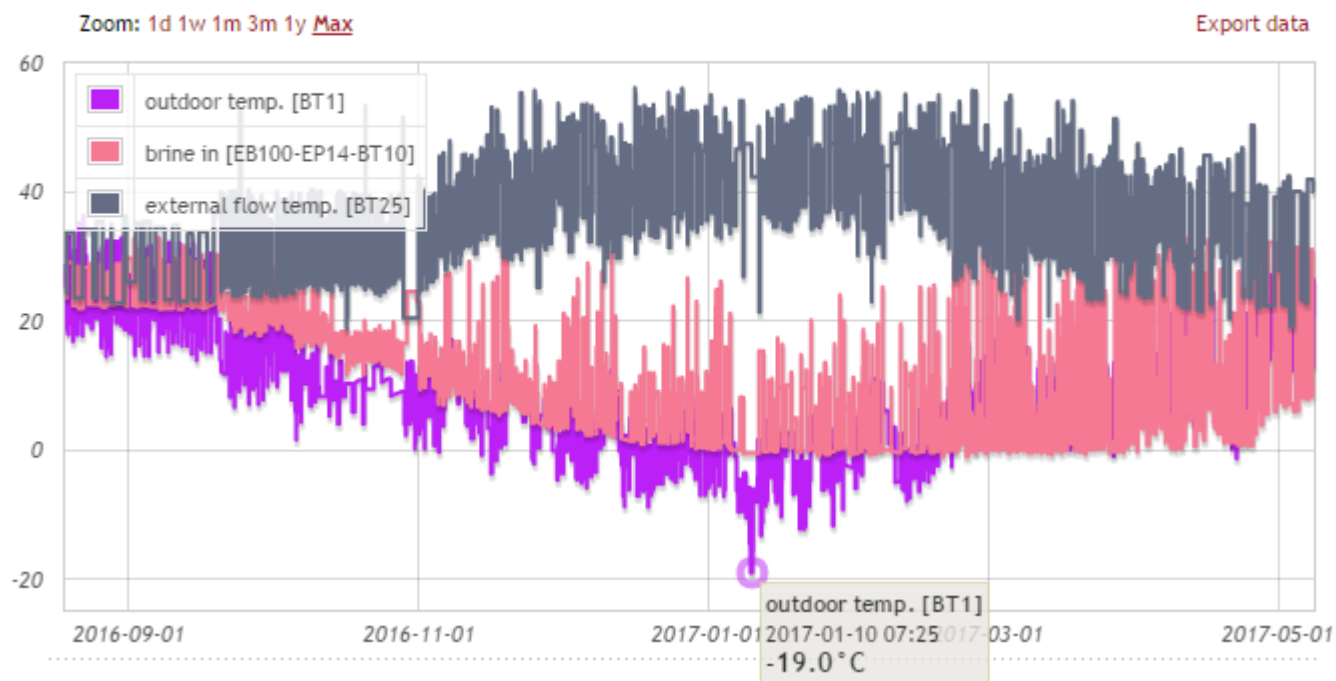
Previous | Next

Dimensionare,
estimare consum

Studiu caz – pensiune Pitesti

my systems / 201142 / 12 / 1 / history /

History



Consum energie PDC – cost lei

- Punerea in functiune s-a facut in Noiembrie 2015; functionare 2 ani (19 luni);
- Consum electric in perioada nov 2015 – mai 2017 = 30.390 Kwh;
- Cost curent / luna = 832 Lei. (1 Kwh = 0,52 lei, poate varia conform contract)

Consum energie cazan electric – cost lei

- Energie echivalenta 102.534 Kwh (COP 4 la pompa de caldura);
- Cost curent / luna = 2806 Lei.
- Diferenta in plus fata de Pompa de caldura = 1974 Lei;
- Diferenta in plus pentru 1 an = 23.688 Lei

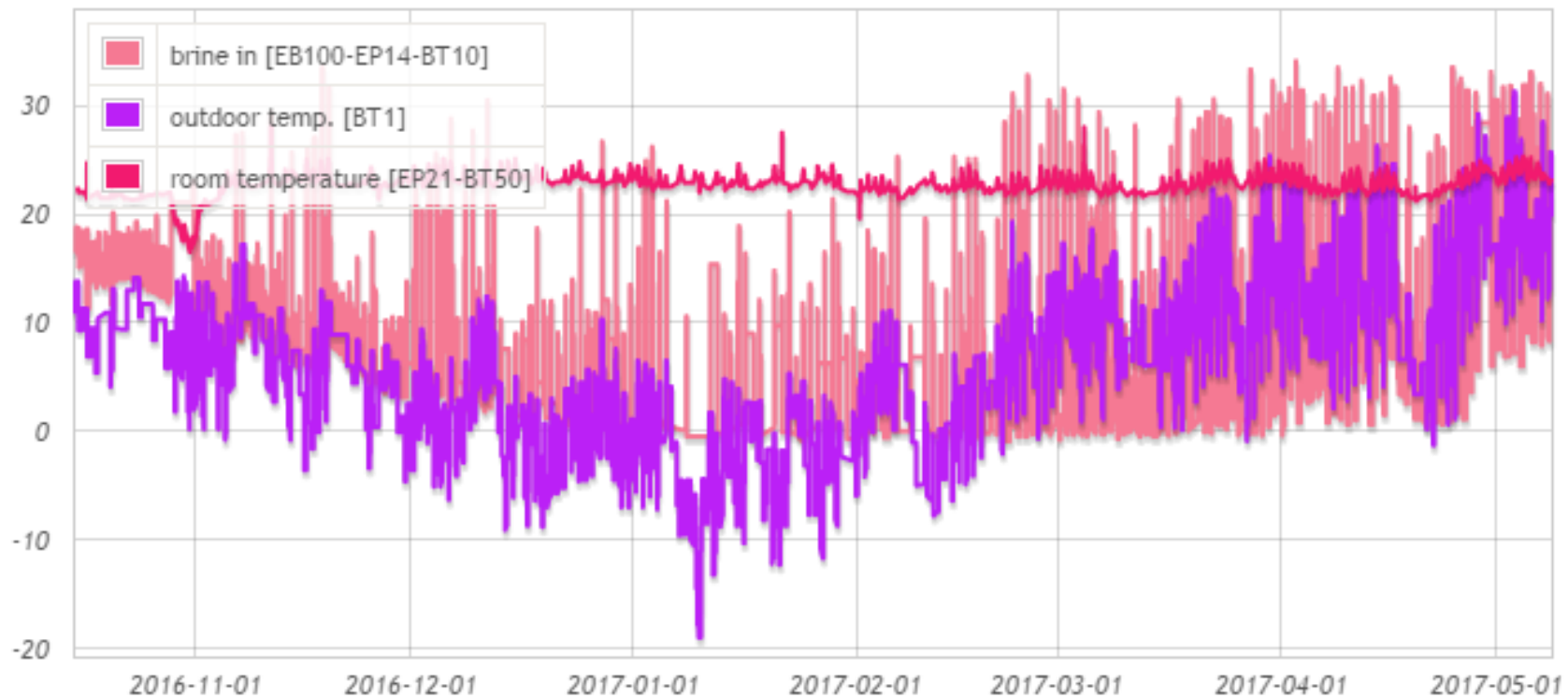
Studiu caz – pensiune Pitesti

History

Confort ambiantal

Zoom: 1d 1w 1m 3m 1y Max

Export data



Referinta – Brasov

Imobil rezidential, S+P+M

- suprafata totala de incalzit 310 mp
- grad de izolare foarte bun
- temperatura exterioara de calcul -21°C
- temperatura interioara 20°C
- necesar de caldura 15,5kw



Tip sursa

- sol: colectori serpentina, 9x200m la -1,5m
- teava din polietilena PE 25
- sursa incarcata cu Geo Protect G25 (-15°C)





Echipamente

- NIBE F1145 PC - 10 Kw
- boiler VPB 500
- acumulator cald/rece 200 litri
- cazan in condensatie Alkon09R24
- module ECS pentru interior



Cost echipamente CT

60.200 lei (TVA inclus)

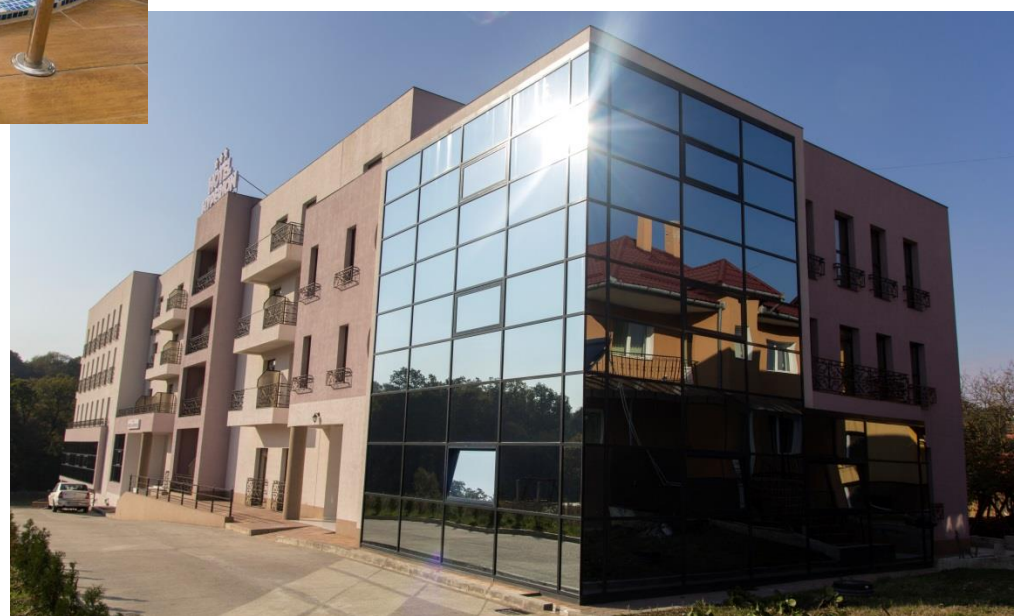
Cost sursa

Regie proprie

Referinta – Hotel Felix

Hotel Hyperion, P+3E

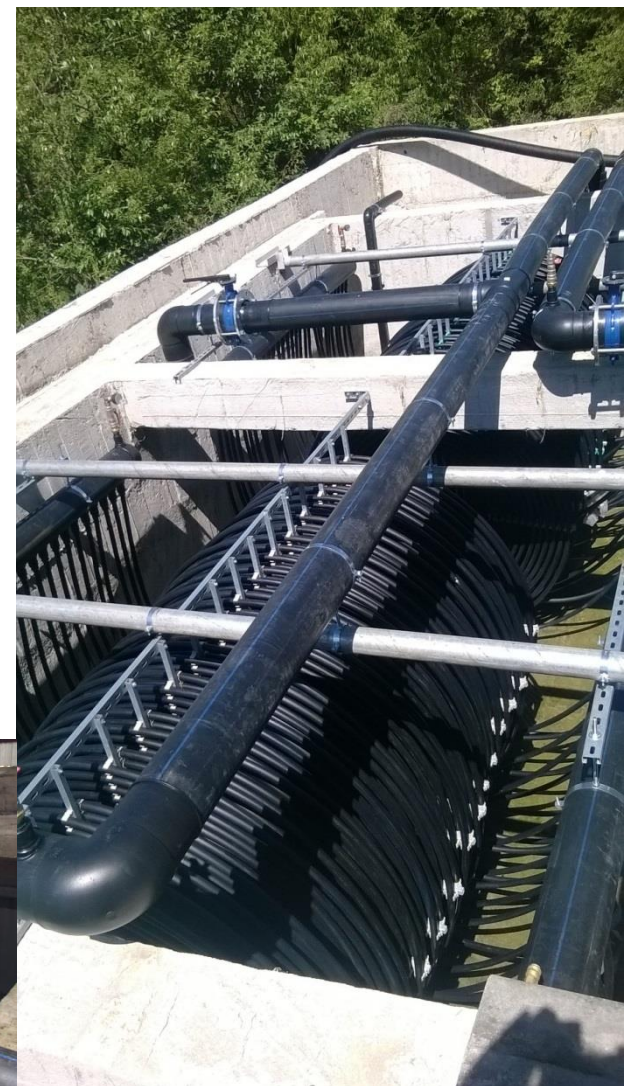
- suprafata totala 3000 mp
- restaurant, sala de conferinte
- baza tratament
- piscina interioara
- inaltime 2,7 m pe nivel
- 56 camere duble
- 6 apartamente



Referinta – Hotel Felix

Tip sursa:

- un bazin apa geotermala 10x3x2 m;
- 25°C pentru incalzire iarna / racire vara – apa izvor
- teava din polietilena PE 25 / PN6, in sistem distribuitor/colector
- apa geotermala 35-40°C piscina, suplimentare bazine iarna



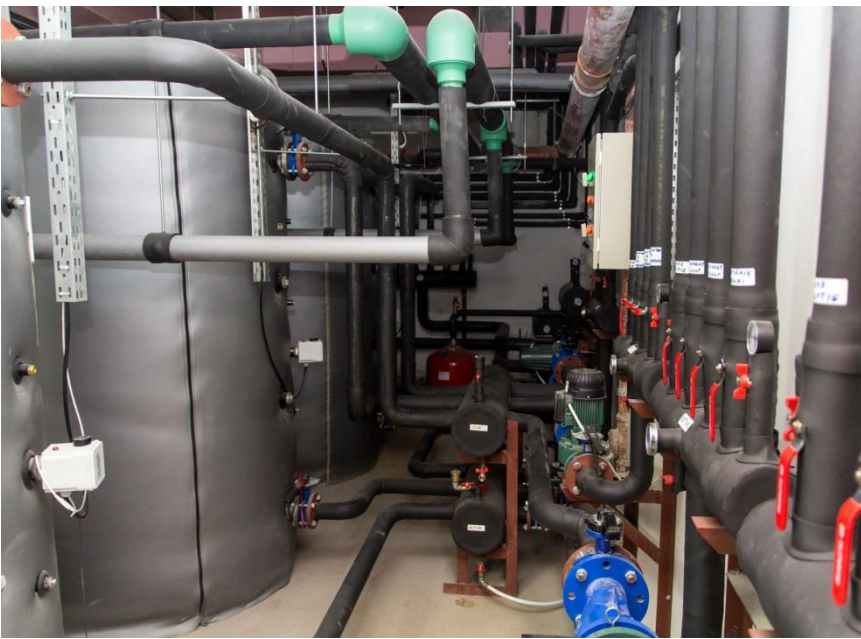
Referinta – Hotel Felix

Echipamente:

- 2 x NIBE F1345 - 60 Kw
- 2 x modul racire activa / pasiva NIBE HPAC 42
- 3 x acumulator incalzire / racire 2000 litri
- 4 x boiler ACV SLME 600

Instalatia interioara

- ventiloconvectoare
- radiatoare port-prosop in bai



Control la distanta NIBE Uplink

My Systems / F1145-8 EXP_Manole A / Status / Overview /

F1145-8 EXP_Manole A

Viewer

- Status
- Overview
- Service Info
- Alarms
- Smart Home
- History
- Premium
- Options

Overview

-8.2°C

32.6°C 32.7°C

31.5°C 36.1°C

32.9°C 35.9°C

11.6°C 6.7°C

brine temp.

brine in	11.6°C
brine out	6.7°C

Status

Accessories

My Systems / IF F1145-10 PC C6 / Status / Overview /

IF F1145-10 PC C6

Viewer

- Status
- Overview
- Service Info
- Alarms
- Smart Home
- History
- Premium
- Options

Overview

-10.8°C

31.0°C 30.6°C

30.0°C 33.4°C

31.5°C 33.9°C

-0.1°C -5.1°C

brine temp.

brine in	-0.1°C
brine out	-5.1°C

Status

Accessories



Control la distanta NIBE Uplink

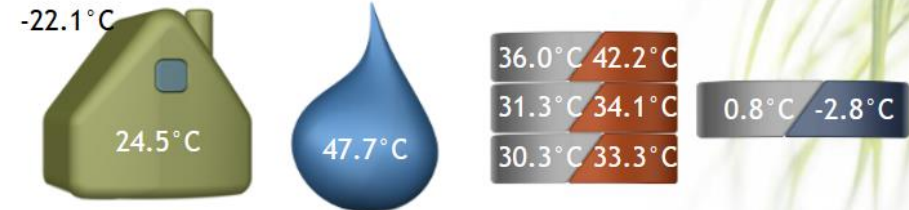
Viewer

● BV F1245-8 Tanase

- Status
- Overview
- Service Info
- Alarms
- Smart Home
- History
- Premium
- Options

My Systems / BV F1245-8 Tanase / Status / Overview /

Overview



Status



Accessories

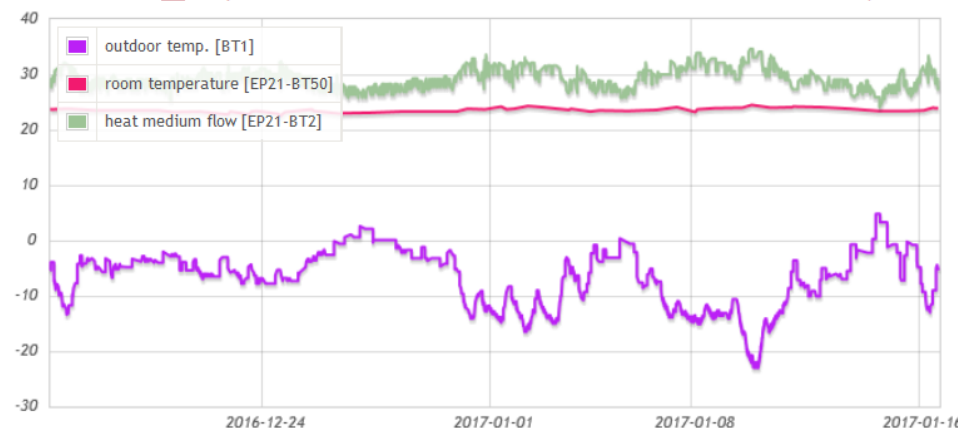


My Systems / BV F1245-8 / History /

History

Zoom: 1d 1w 1m 3m 1y Max

Export data



Fit graph

Toggle legend

Control la distanta NIBE Uplink

My Systems / GL F1155+HPAC40 / Status / Overview /

Overview

Viewer

GL F1155+HPAC40

- Status
- Overview
- Service Info
- Alarms
- Smart Home
- History
- Premium
- Options

-6.9°C

23.0°C

40.9°C

32.6°C	33.1°C
30.8°C	34.3°C
30.9°C	34.5°C
33.2°C	33.5°C

4.0°C 0.0°C

Status

Accessories

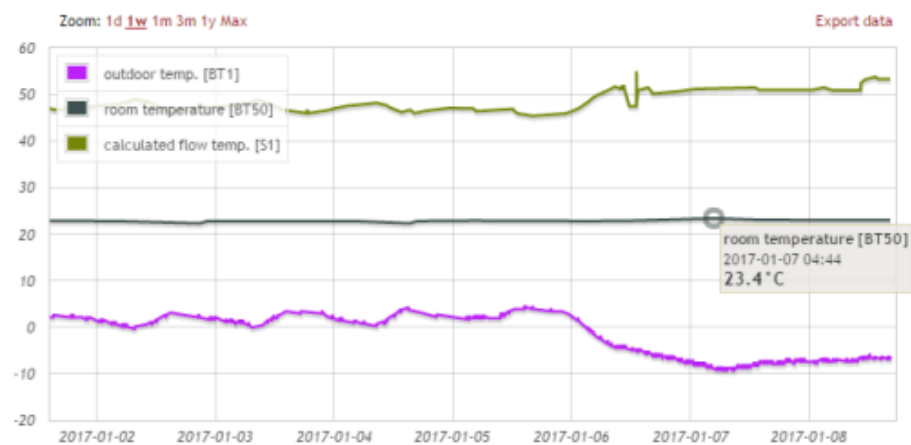
Viewer

GL F1155+HPAC40

- Status
- Smart Home
- History
- Alarm History
- Information Messages
- Premium
- Options

My Systems / GL F1155+HPAC40 / History /

History



Fit graph Toggle legend



Control la distanta NIBE Uplink

Viewer

▼ Status

► Overview

Service Info

Alarms

Smart Home

History

Premium

Options

My Systems / VN F1155-12 EXP / Status / Overview /

Overview



Status



Accessories

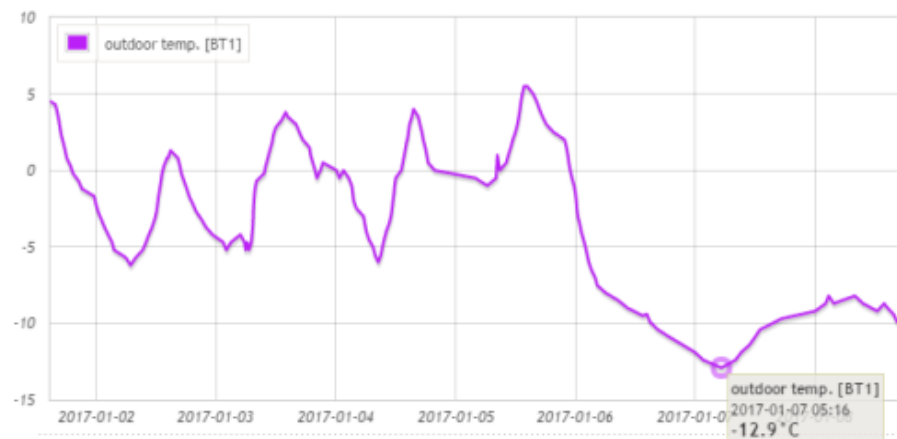


My Systems / VN F1155-12 EXP / History /

History

Zoom: 1d 1w 1m

Export data



Fit graph Toggle legend

Control la distanta NIBE Uplink

Viewer

NT F1345-60 HPAC40

- Status
- Overview
- Service Info
- Alarms
- Smart Home
- History
- Premium
- Options

My Systems / NT F1345-60 HPAC40 / Status / Overview /

Overview



brine pump	
brine in EP14	8.2°C
brine out EP14	4.5°C
brine in EP15	8.1°C
brine out EP15	4.3°C
brine pump speed	90.0%



Accessories



My Systems / NT F1345-60 HPAC40 / History /

History



Fit graph Toggle legend



VĂ MULȚUMIM PENTRU ATENȚIA ACORDATĂ !

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