

Danfoss CH 3.8

Program za projektovanje i proračun

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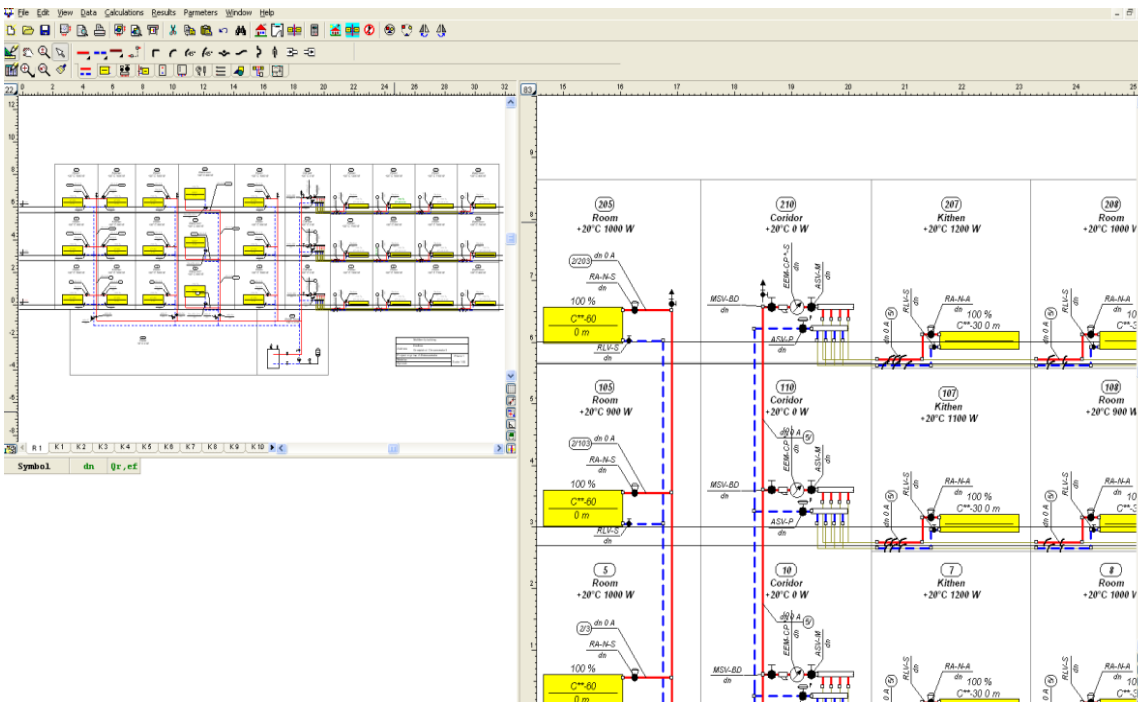
1 program

Za svakog projektanta



Svrha upotrebe

- Crtanje
 - Sistemi grejanja/hlađenja
 - Umetanje AutoCAD crteža
 - Predefinisani blokovi
- Biblioteka proizvoda
 - Radijatori, fan-coil,cevi, regulacioni ventili, prateća oprema, itd.
- Hidraulički proračun
 - Pad pritiska, dimenzionisanje cevne mreže, predpodešavanje, ...
- Dokumentacija



Proizvođač programa

- Sankom – Poljska
 - 25 godina iskustva
 - Projektanti radili na razvoju
 - Saradnja sa - National Energy Conservation Agency (NECA)
 - Više verzija za proizvođače kao što je Danfoss
 - Kontinualna nadogradnja



Aplikacije

- Nove zgrade / Renovacije
- Grejanje / Hlađenje
- Tipovi sistema:
 - Jednocevno / Dvocevno grejanje
 - Vertikalni / Horizontalni sistemi
 - Radijatorsko / podno / drugi terminali
 - Spratne stanice



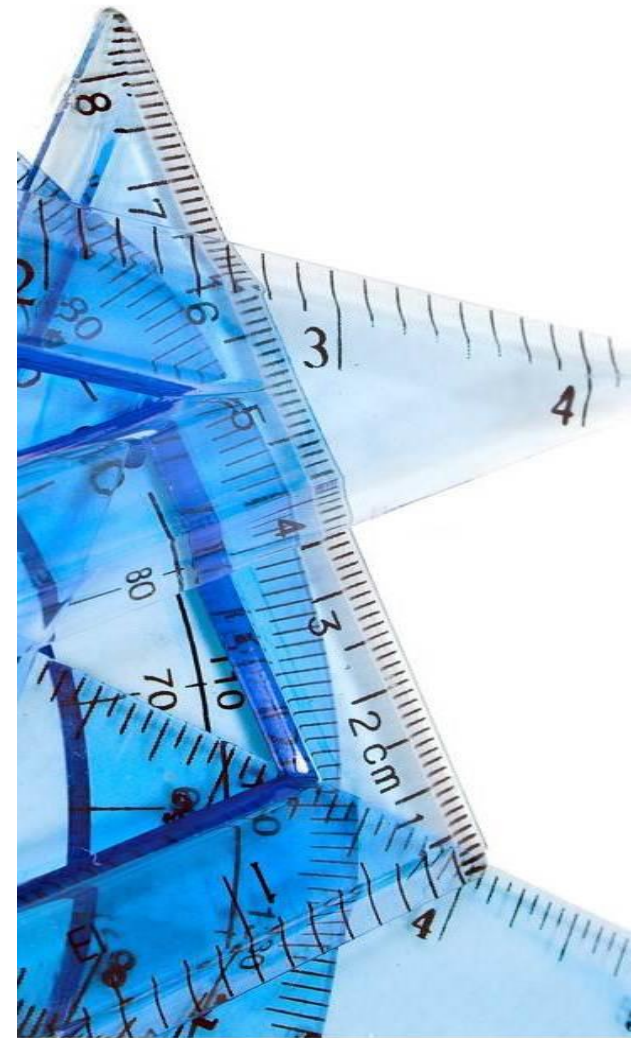
Proračun

- Dimenzionisanje cevne mreže
- Hidraulički otpori za pojedine krugove
- Proračun napora pumpe
- Preveliki / premali napor
- Autoritet regulacionih ventila
- Predpodešavanje (balansnih) ventila
- Zapremina vode u sistemu



Korisne osobine

- Pregledna dokumentacija
- „User friendly interface“
- Okruženje sa više prozora
- DXF i DWG format za import / export
- Jednostavno unošenje podataka
- Brz proračun
- Opširna dijagnostika grešaka.
- Sistem upozorenja na greške
- Funkcija nalaženja greške
- Jednostavna izmena proizvoda



Katalozi, baza podataka

Pipes catalogue

Pipes symbols

- 74200L01
- 74200S01
- 74209-01
- 74219-01
- 74244-01
- ALPEX DB
- ALPEX DR
- ALPEXDUO
- ALPEX-L
- ALPEX-XS
- ALUPEX
- AQ-PB-P
- B8160FC
- B8200FW
- BAN8200B**
- BAN8215B
- BANNI 8160B
- BANW8215
- BETAPEXR
- BETASKIN
- BIOSKIN

Item : Total: 15 : 272

Selected producer:

☒ All

Type of the appliance:

☒ All

Symbol: **BAN8200B**

Producer: **BANNINGER**

Type: **Plastic**

Description: **Pipe Banninger (PP-RCT), type 8200B, green.**

Physical parameters

ρ **895** [kg/m³]

λ **0.24** [W/(m·K)]

k **0.01** [mm]

Resistance parameters

Maximum working temperature: [°C]

Maximum instantaneous temperature: [°C]

Minimum working temperature: [°C]

Minimum instantaneous temperature: [°C]

Maximum working pressure: [MPa]

Maximum instantaneous pressure: [MPa]

Application range

☒ Water

☐ Propylene glycol

☐ Ethylene glycol

☐ Cold water

☐ Hot water

☐ Central heating

☐ Underfloor heating

☐ To be ordered

☐ Withdrawn

dn	d _e	d _i	G	dn _n	Catalogue number	V	m	W
[mm]	[mm]	[mm]	[mm]	[mm]		[l/m]	[kg/m]	
20	20.0	14.4	2.80	15	8200B20	0.16	0.14	0
25	25.0	18.0	3.50	20	8200B25	0.25	0.21	0
32	32.0	23.2	4.40	25	8200B32	0.42	0.34	0
40	40.0	29.0	5.50	32	8200B40	0.66	0.53	0
50	50.0	36.2	6.90	40	8200B50	1.03	0.84	0
63	63.0	45.8	8.60	50	8200B63	1.65	1.32	0

Basic data

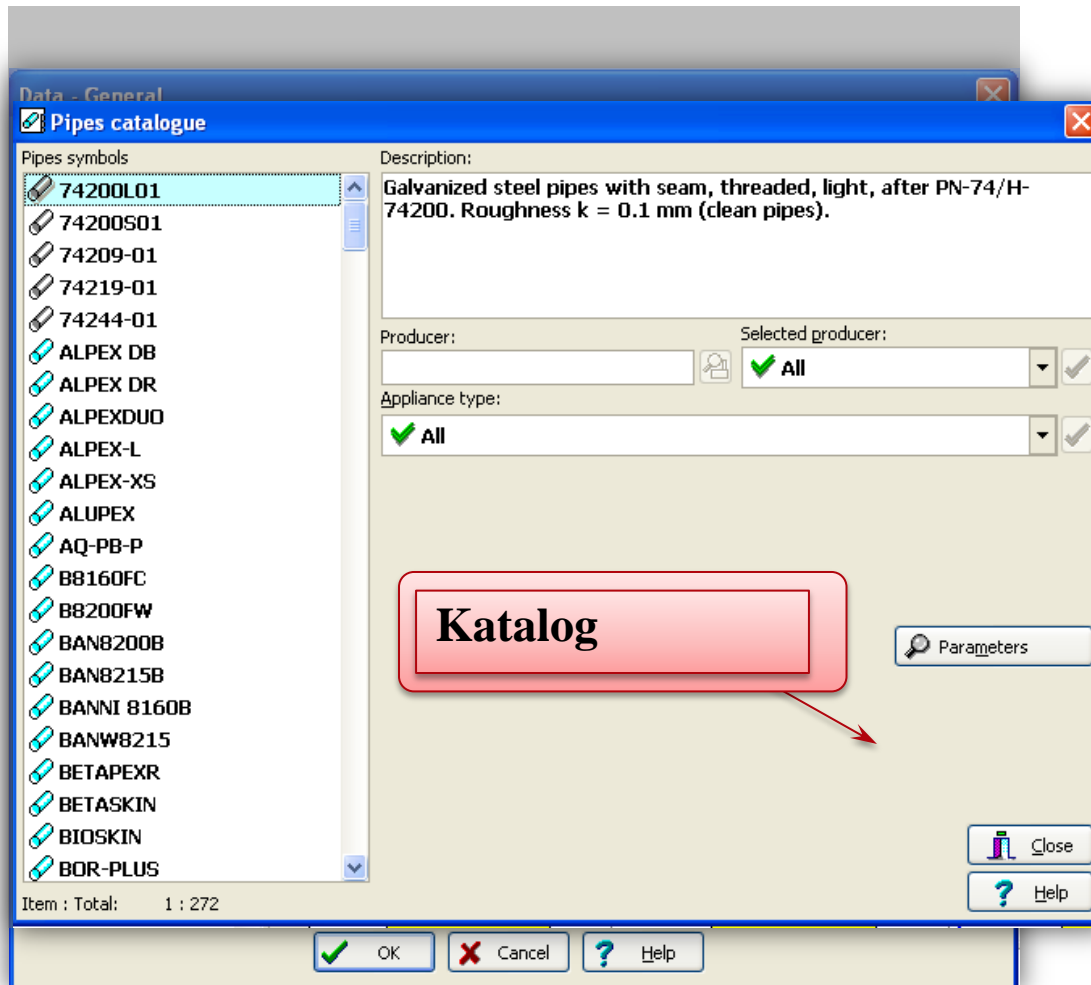
☒ All

☒ Hide parameters

Close Help

Prezentacija programa

Osnovni podaci



**Varijanta
proračuna**

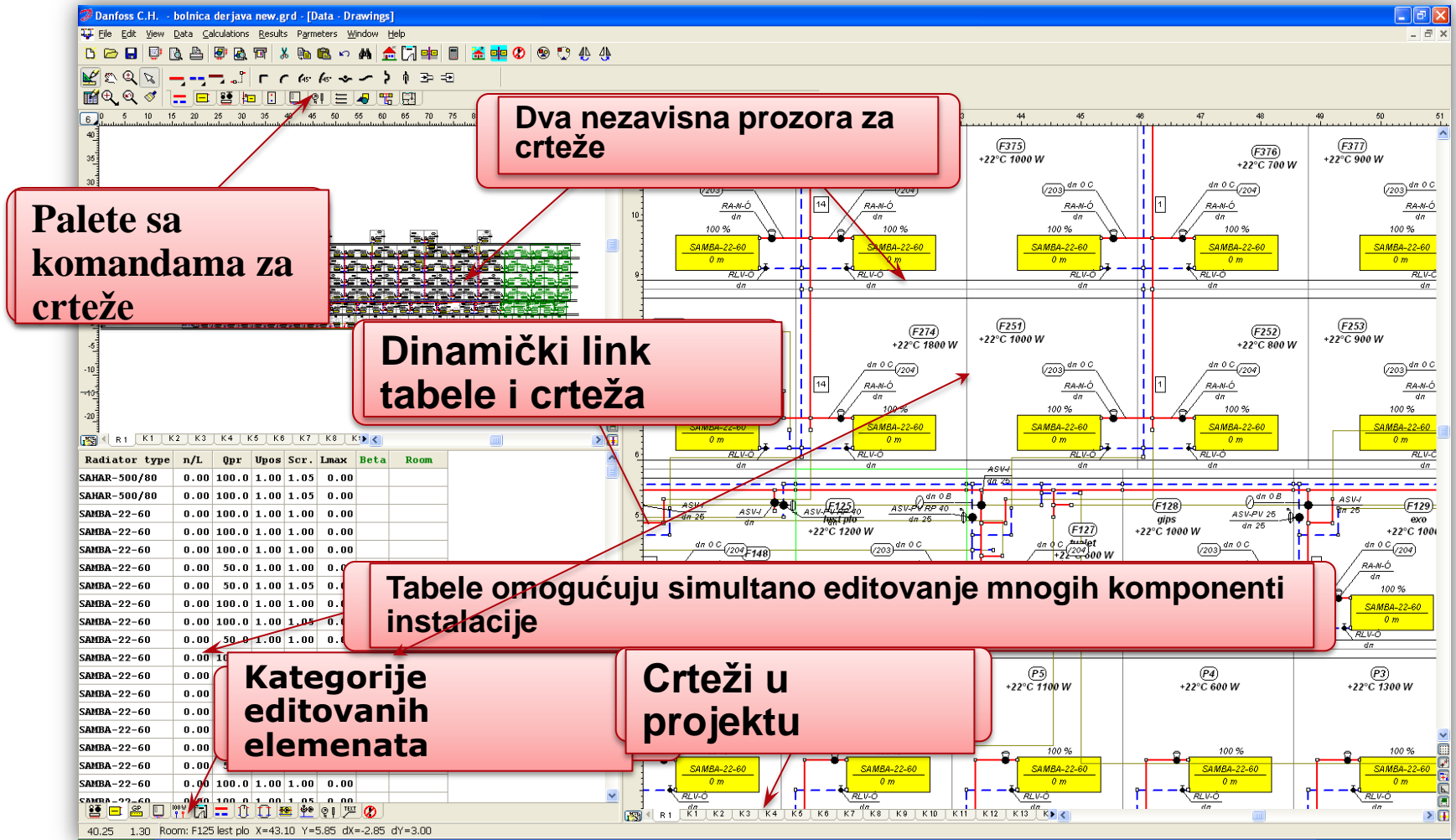
**Temperatura
vode**

**Parameteri
izvora
toplote**

Raspoložive cevi

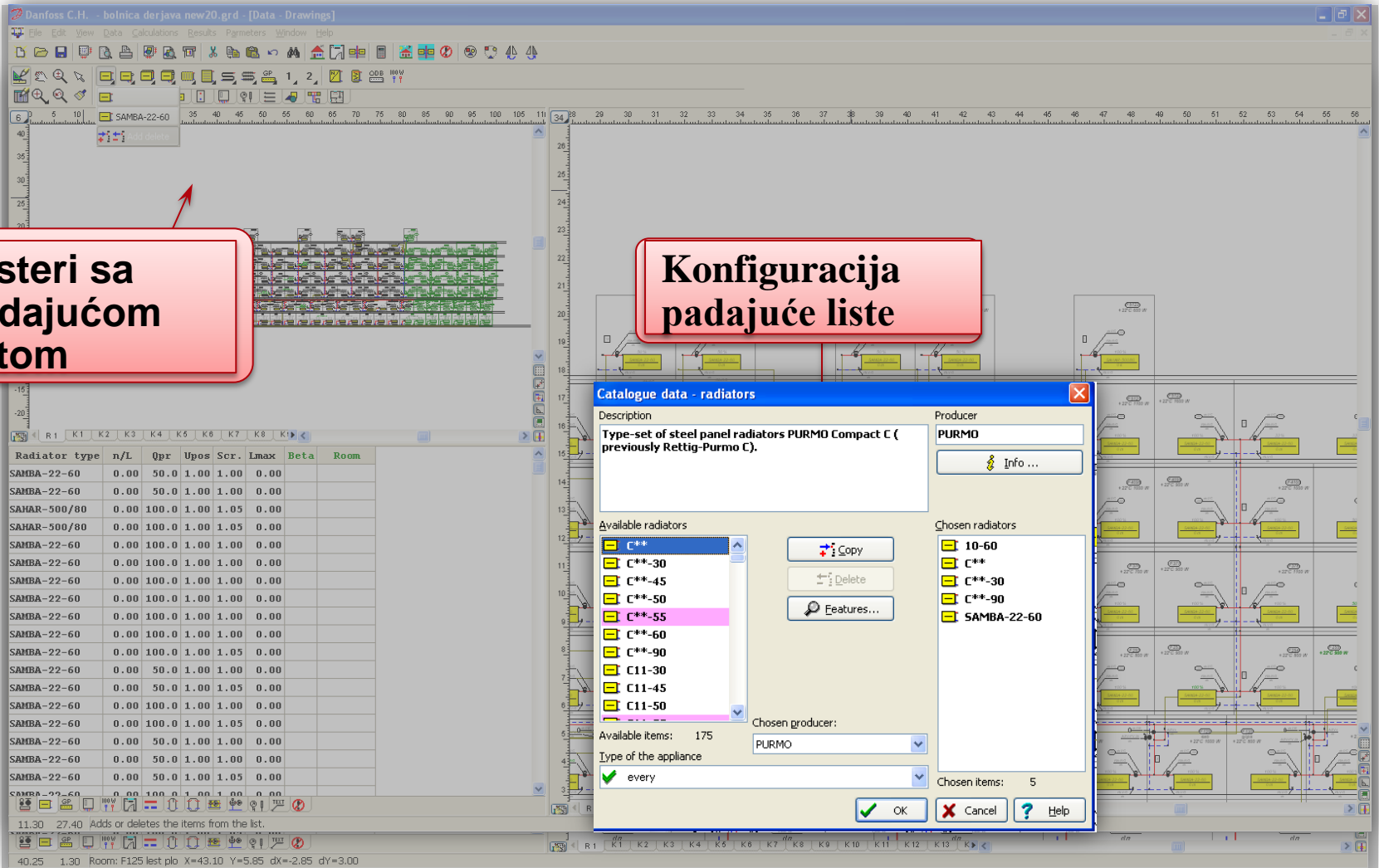
Prezentacija programa

Osnovni podaci



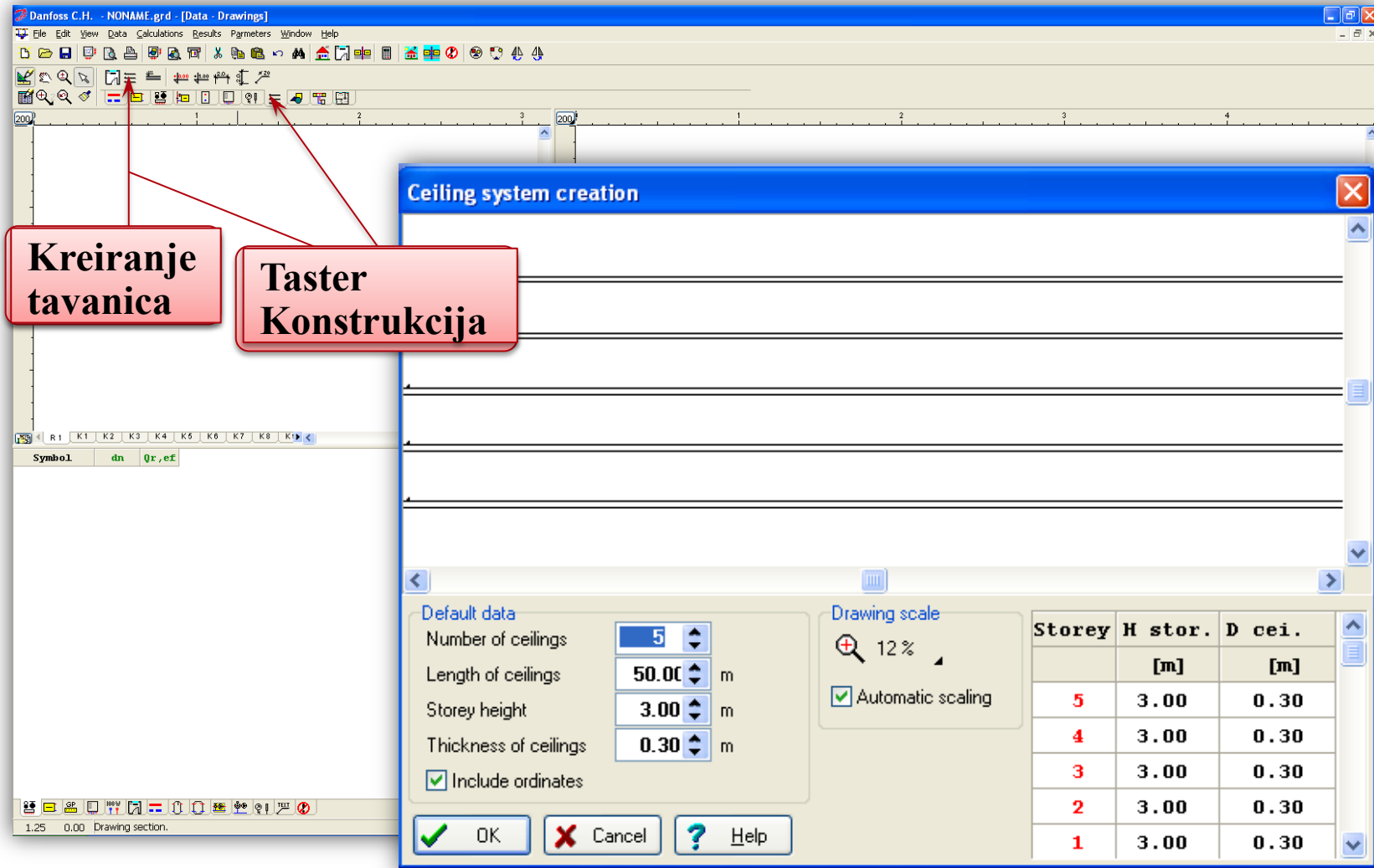
Prezentacija programa

Osnovni podaci



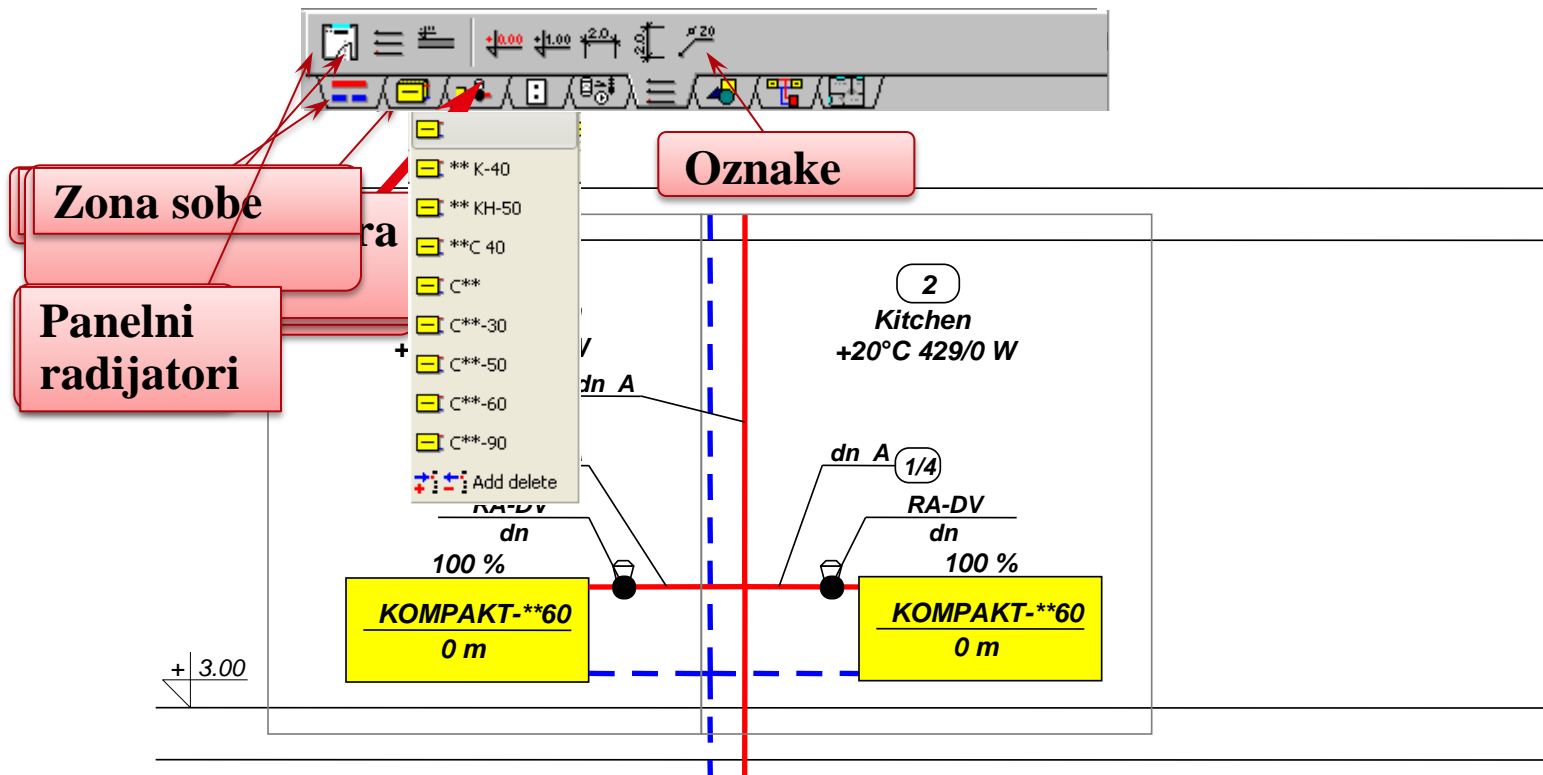
Prezentacija programa

Osnovni podaci



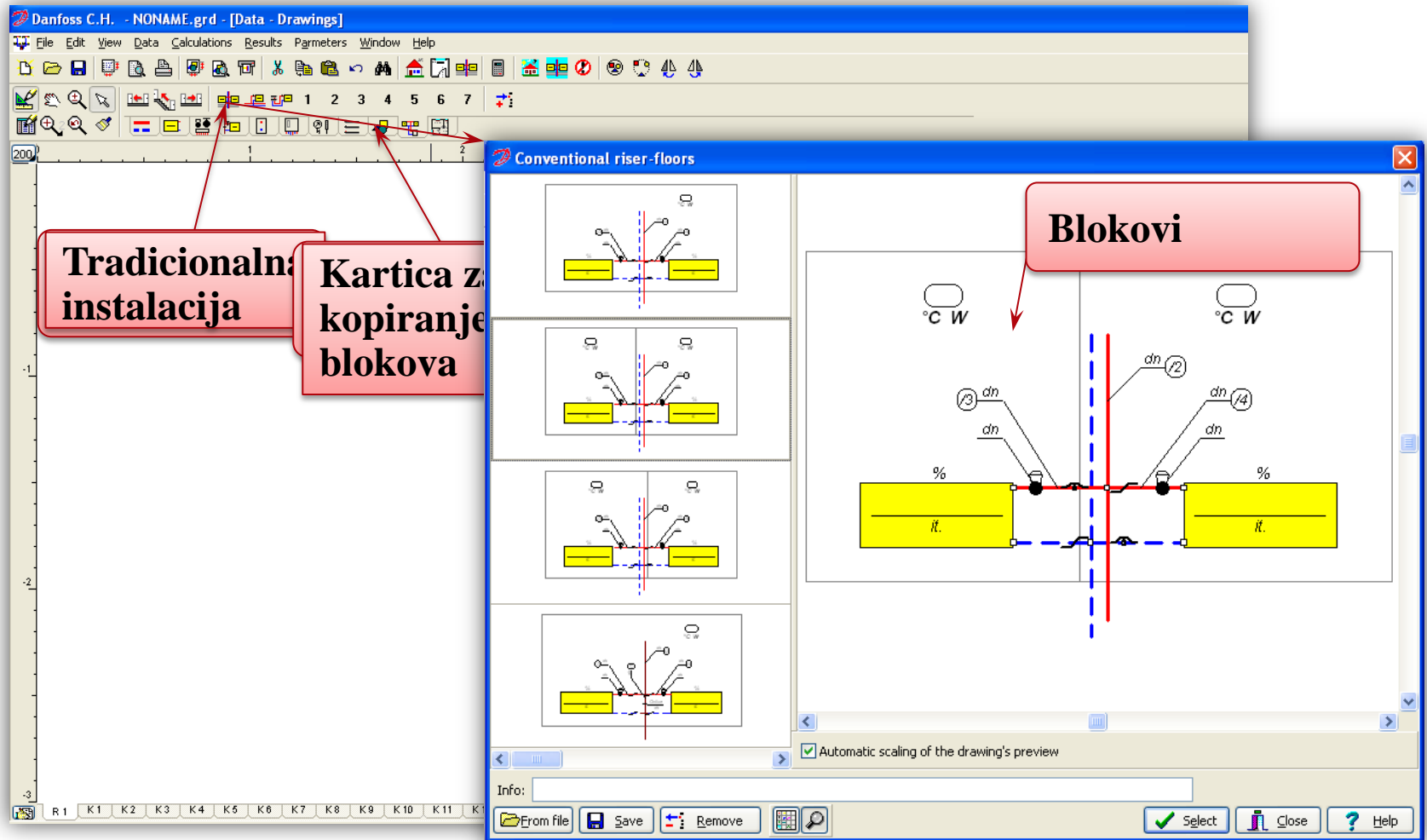
Prezentacija programa

Crteži



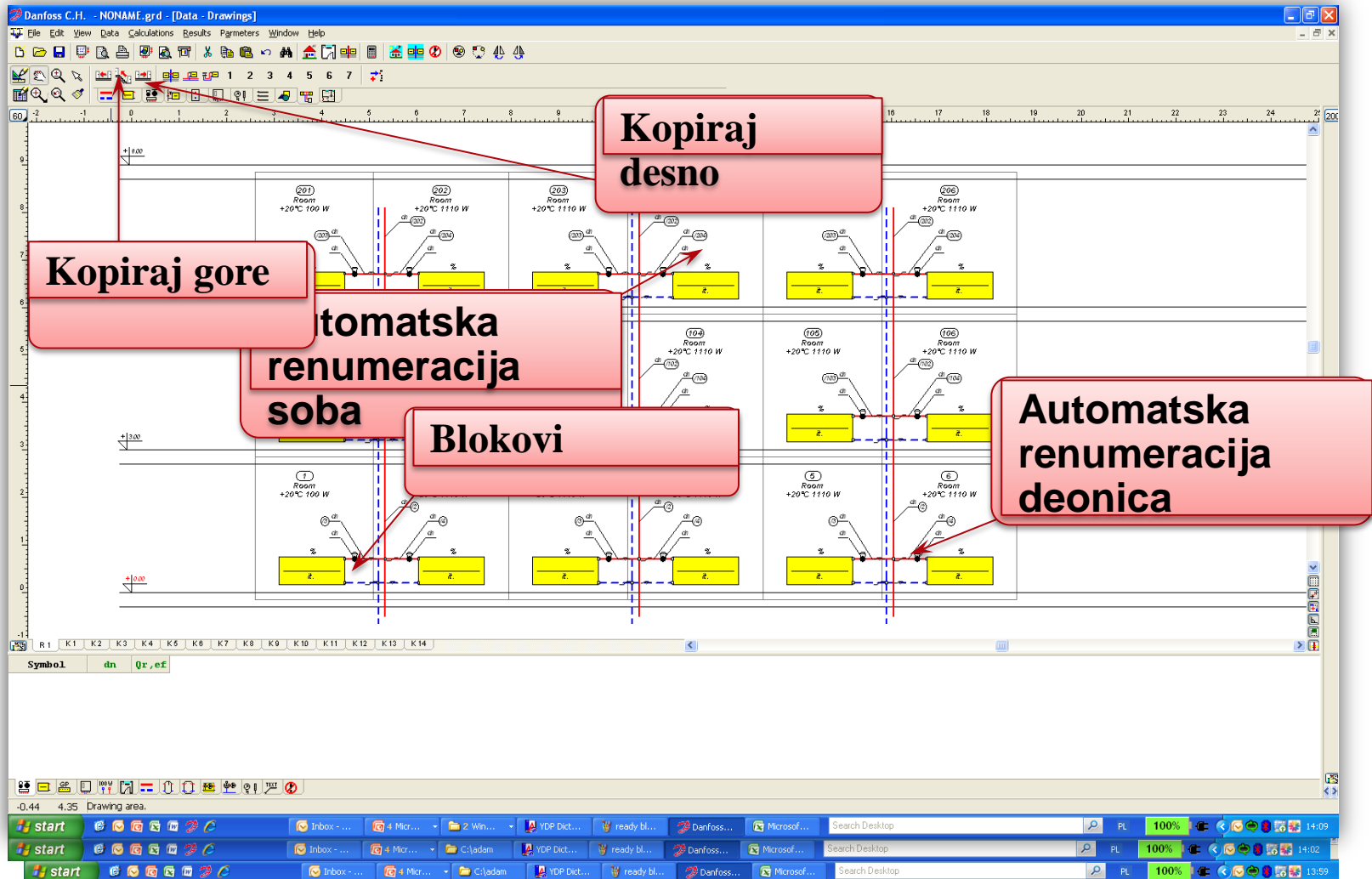
Prezentacija programa

Predefinisani blokovi



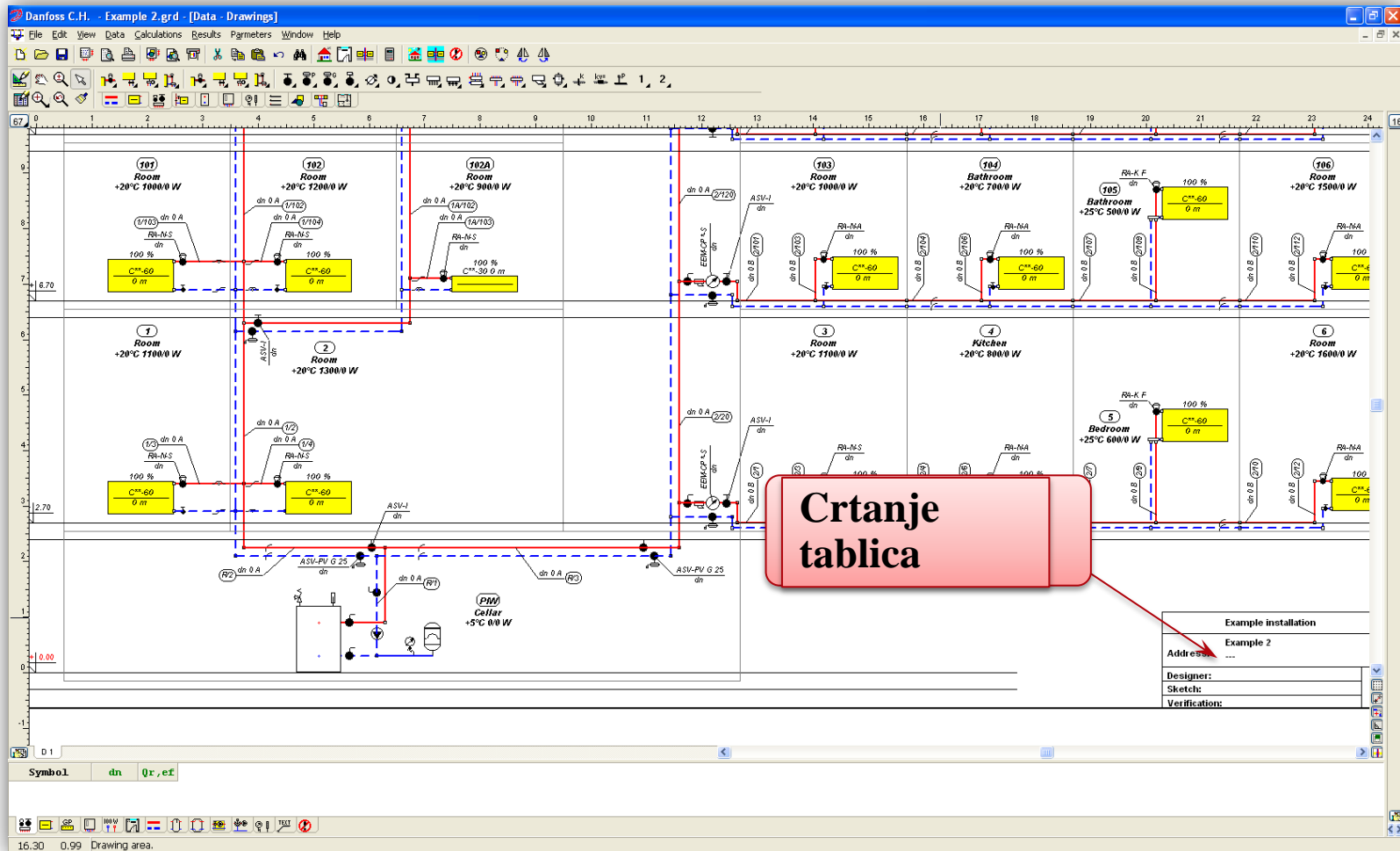
Prezentacija programa

Predefinisani blokovi



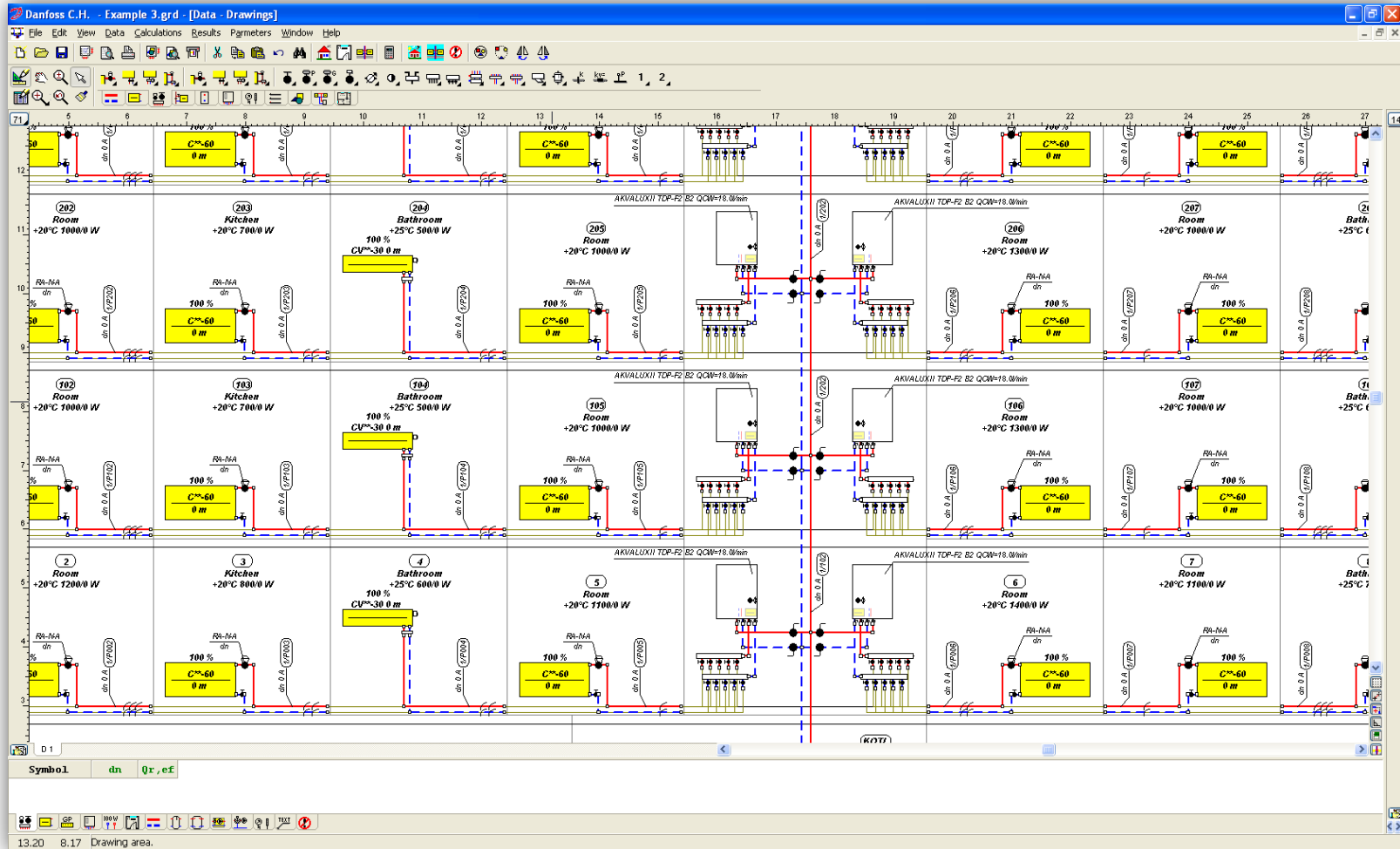
Prezentacija programa

Horizontalni i/ili verticalni sistem u stanovima



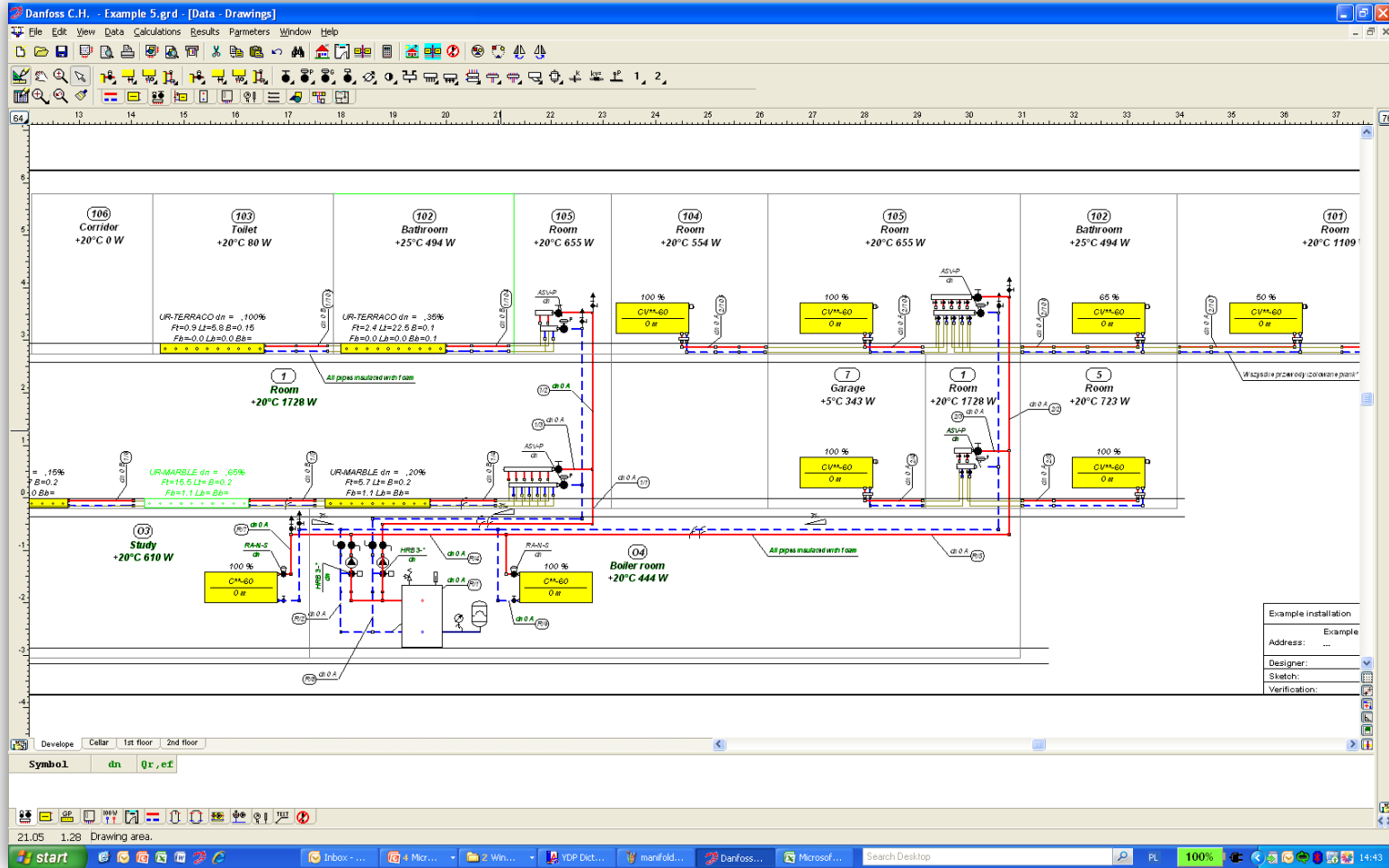
Prezentacija programa

Sistem sa spratnim stanicama u stanovima



Prezentacija programa

Sistem sa kolektorima za podno ili radijatorsko grejanje



Prezentacija programa

Pogled

Oznaka elementa
u instalaciji

Oznaka sobe

Cevi

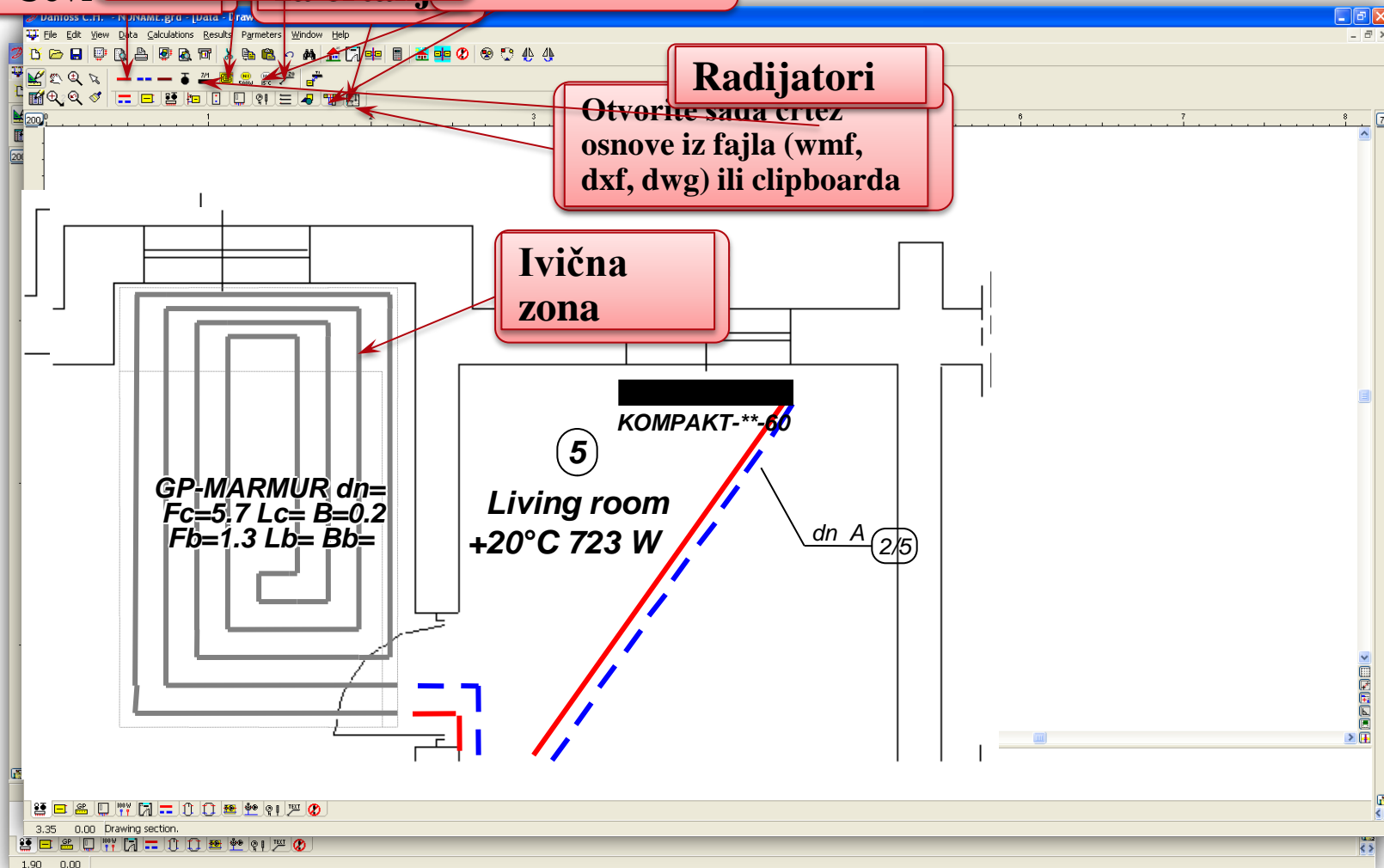
Radijatori

Otvorite sada crtez
osnove iz fajla (wmf,
dxf, dwg) ili clipboarda

Ivična
zona

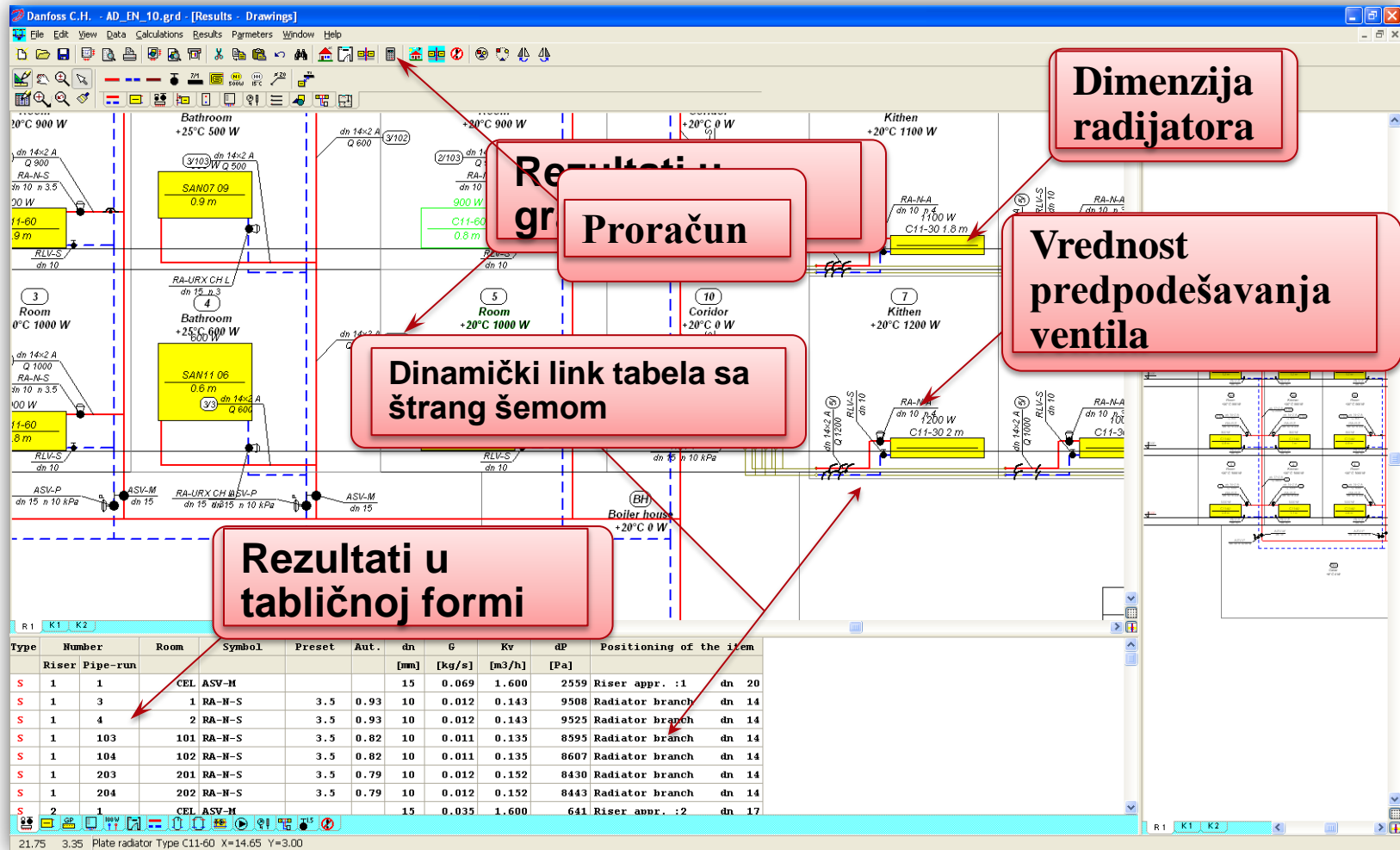
GP-MARMUR dn=
Fc=5.7 Lc= B=0.2
Fb=1.3 Lb= Bb=

5
Living room
+20°C 723 W
KOMPAKT-**-60
dn A (2/5)

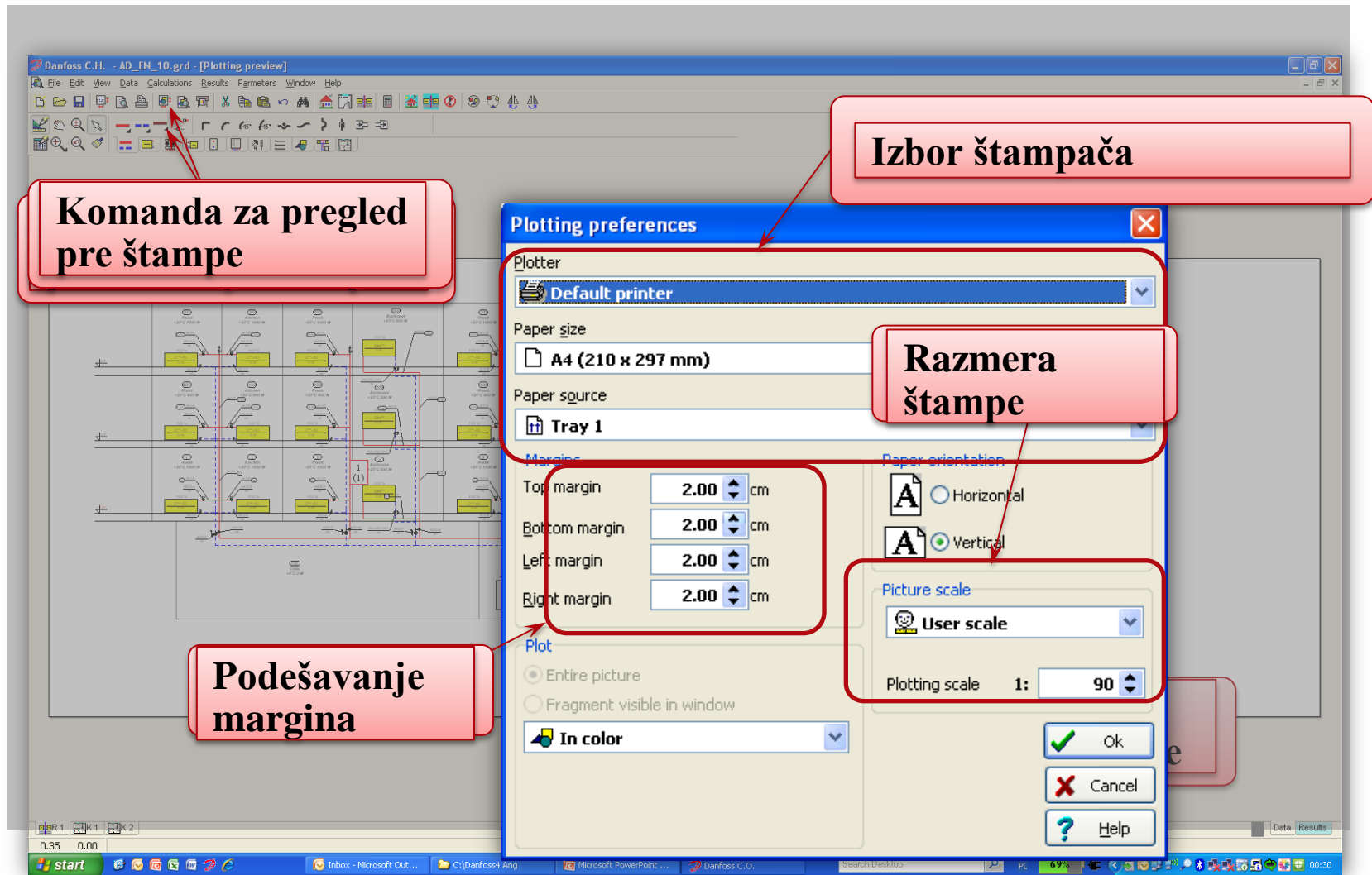


Prezentacija programa

Rezultati proračuna

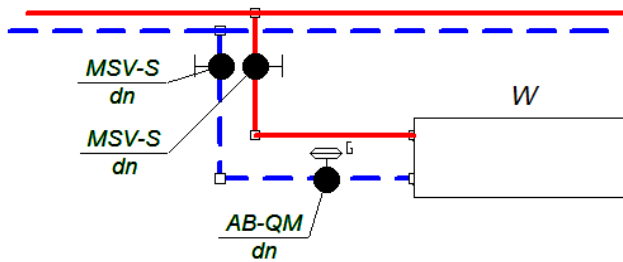


Prezentacija programa Štampa

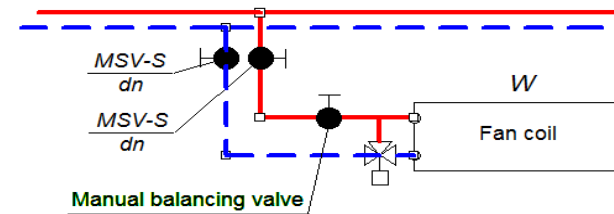


Prezentacija programa

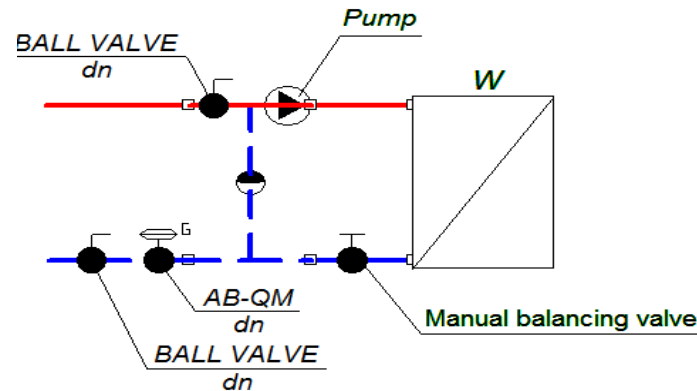
Primeri fan coil sistema



Fan coil sa ab-qm



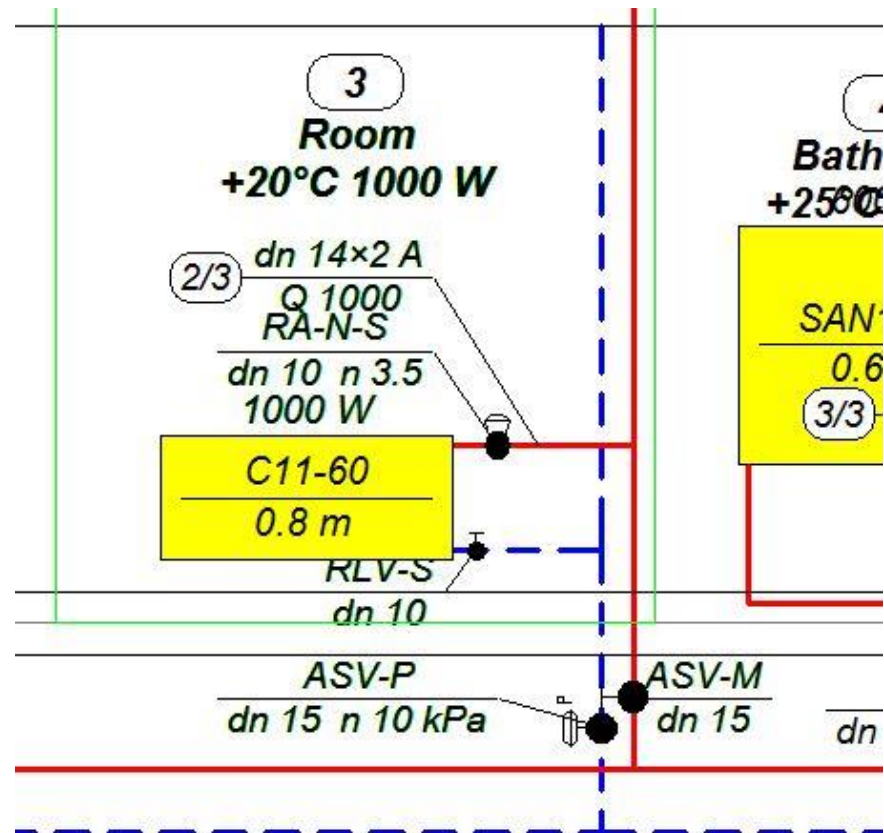
Fan coil sa trokrakim ventilom



Grejač klima komore sa ab-qm ventilom

Mogućnosti DanfossCH – šta je izračunato i vidljivo?

- Prečnici cevi
- Dimenzije ventila
- Pozicije ventila
- Dužina i tip radijatora



Mogućnosti DanfossCH – šta je izračunato i vidljivo?

- Hidraulički otpori za pojedinačne cirkulacione krugove

- Previše i/ili premalo napora

- Hidraulički otpor prijemnika

- Ograničenja protoka i brzina

Installation & heat source hydraulic resistance dP_c , [Pa]:	26069
Pipe-run with radiator minimal resistance... dP_{rmin} , [Pa]:	876
Total water flux in installation..... G_t , [kg/s]:	0.301
Total capacity of installation..... V_t , [l]:	161
Calculation installation heat load..... Q_c , [W]:	25200
Lost load..... Q_{lo} , [W]:	7465
Add. output reserve for loading the heat buffer Q_{res} , [W]:	0
Required design source heat output in winter.... Q_{sw} , [W]:	25200
Required design source heat output in summer.... Q_{ss} , [W]:	

Heated rooms:

Overheating...:	4	Overload [W]:	897
Underheating...:	0	Load deficit [W]:	70
Radiat.load [W]	21454	Gains from pipes [W]:	4573

Underheated rooms:

Radiat.load [W]	0	Gains from pipes [W]:	3226
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Radiators:

Overheating...:	4	Overload [W]:	897
Underheating...:	0	Load deficit [W]:	70
Calc. load [W]:	25200	Real load [W]:	21454

Mogućnosti DanfossCH – šta je izračunato i vidljivo?

- Pregled cevnih deonica

Type	Number		L	dn	Q	G	v	R	Dzeta	dP
pipe	Riser	Pipe-run	[m]	[mm]	[W]	[kg/s]	[m/s]	[Pa/m]		[Pa]
A	3	103	0.50	14	500	0.006	0.078	9.2	1.5	9
A	3	103	0.65	14	500	0.006	0.078	9.2	2.0	12
A	3	203	0.50	14	600	0.007	0.094	11.6	2.0	15

- Pregled izbora i podešavanja ventila

Type	Number		Room	Symbol	Preset	Aut.	dn	G	Kv	dP	Positioning of the item	
	Riser	Pipe-run					[mm]	[kg/s]	[m3/h]	[Pa]		
S	5		209	RA-N-A	4	0.83	10	0.013	0.168	8347	Radiator branch	dn 14
S	5		208	RA-N-A	3.5	0.87	10	0.012	0.149	8681	Radiator branch	dn 14
S	5		210	MSV-BD	3.4		15	0.049	1.230	2171	On riser ...:5	dn 20
S	5		207	RA-N-A	4	0.88	10	0.014	0.178	8798	Radiator branch	dn 14
S	5		106	RA-N-A	3	0.94	10	0.008	0.101	9360	Radiator branch	dn 14
S	5		109	RA-N-A	3.5	0.85	10	0.012	0.151	8485	Radiator branch	dn 14
S	5		108	RA-N-A	3.5	0.88	10	0.011	0.134	8774	Radiator branch	dn 14
S	5		110	MSV-BD	3		15	0.044	1.060	2383	On riser ...:5	dn 17
S	5		107	RA-N-A	4	0.88	10	0.013	0.164	8806	Radiator branch	dn 14
S	5		6	RA-N-A	3	0.94	10	0.010	0.115	9403	Radiator branch	dn 14
S	5		9	RA-N-A	4	0.83	10	0.013	0.168	8329	Radiator branch	dn 14
S	5		8	RA-N-A	3.5	0.86	10	0.012	0.150	8652	Radiator branch	dn 14
S	5		10	MSV-BD	3.3		15	0.049	1.190	2322	On riser ...:5	dn 20
S	5		7	RA-N-A	4	0.88	10	0.014	0.179	8796	Radiator branch	dn 14
S			BH	MSV-BD	6.2		25	0.301	9.500	1377	Riser appr. :	dn 32
R	1	1	CEL	ASV-P	10kPa		15	0.069	1.600	2502	Riser appr. :1	dn 20
R	2	1	CEL	ASV-P	10kPa		15	0.035	0.507	6231	Riser appr. :2	dn 17
R	3	2	CEL	ASV-P	10kPa		15	0.020	0.279	7070	Riser appr. :3	dn 14

Mogućnosti DanfossCH – šta je izračunato i vidljivo?

- Predmer

dn	Nr catalogue	Quant	Price	Remarks
[mm]		[unt]	[CU]	
Symbol: ASV-M Producer: DANFOSS				
Cut-off valve, type ASV-M, internal thread, enabling connecting pressure signal pipe for differential pressure governor e.g. ASV-P ASV-FV and ASV-FV Plus.				
15	003L7691	6		
	All	6		
Symbol: ASV-P Producer: DANFOSS				
Pressure differential governor, type ASV-P, internal thread, maintains fixed pressure difference $dP = 10 \text{ kPa}$. New model introduced in 1997. Mounted on return.				
15	003L7621	6		
	All	6		
Symbol: EEM-CP 0.6-S Producer: DANFOSSLMP				
Heatmeter, type EEM-CP II (compact), mounting on supply vertical or horizontal, flow range $Q = 0.012 \dots 0.6 \text{ m}^3/\text{h}$. Maximum operation temperature $T_{\max} = 90 \text{ deg}$.				
15	087AP06Z	3		
	All	3		

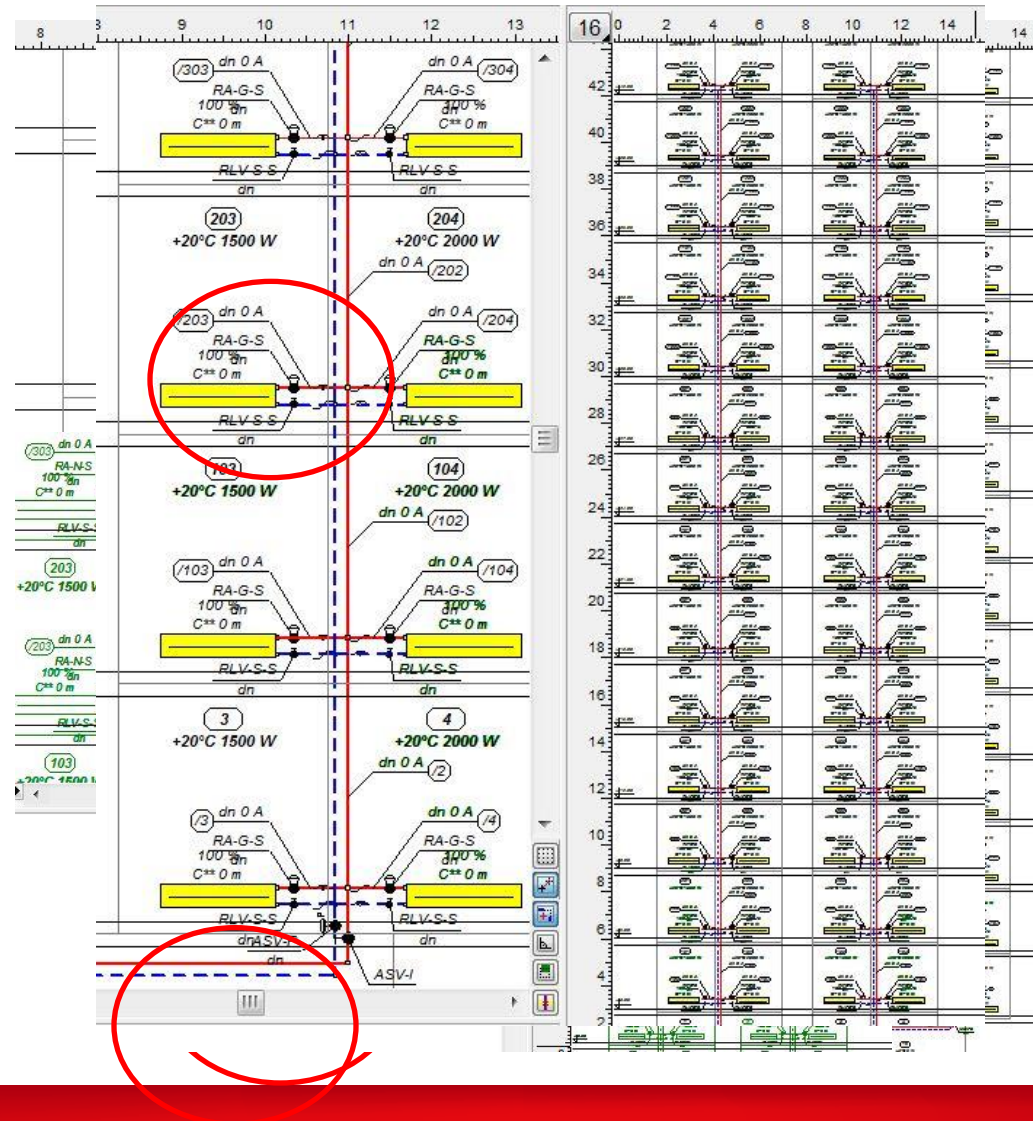
Mogućnosti Danfoss CH – šta je korisno i štedi vreme ?

- Brze i jednostavne promene rešenja

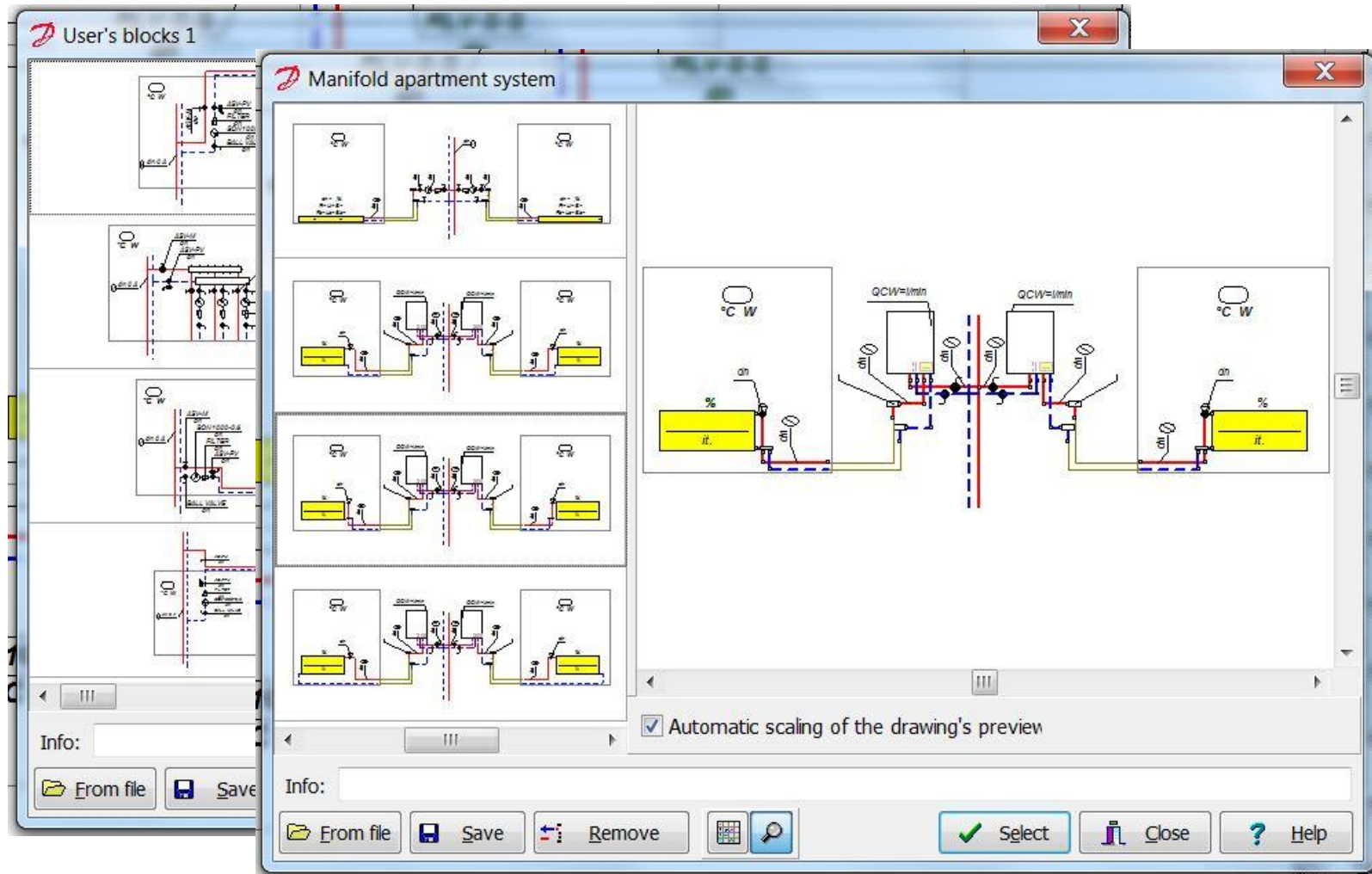
- ✓ Ručno - automatsko balansiranje
- ✓ Kolektori i spratne stanice
- ✓ AB-QM

- Jednostavna renovacija i regulacija

- ✓ Stari – novi sistem posle modernizacije, npr.: izolacija, ugradnja termostatskih ili balansnih ventila, promena izvora toplote, optimizacija pumpe.

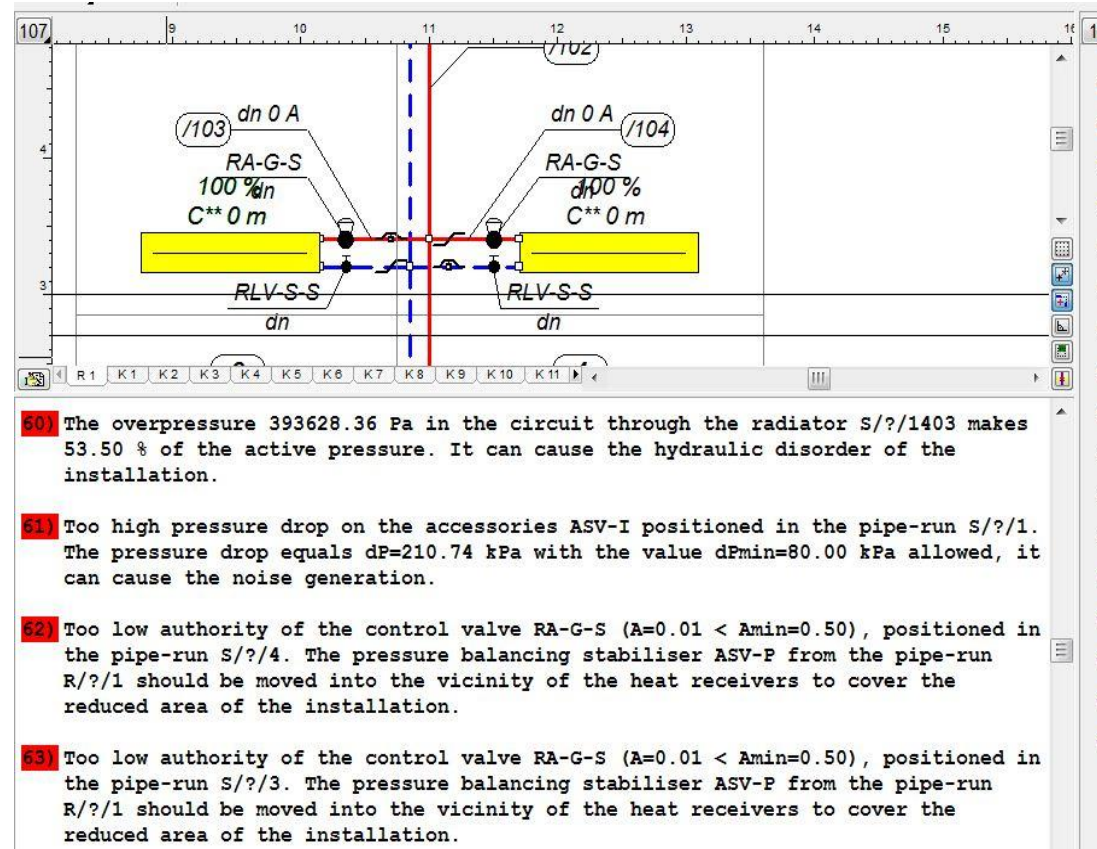


Mogućnosti Danfoss CH – šta je korisno i štedi vreme ?



Mogućnosti Danfoss CH – šta je korisno i štedi vreme ?

- Opširna dijagnostika grešaka
- Sistem upozorenja na greške
- Funkcija brzog nalaženja greške



Zaključak

- Lakoprojektovanje
- Fleksibilno
- Optimizacija sistema
- Rešavanje problema
- Atraktivna dokumentacija
- "Jeftin" alat
- Štedi vreme projektantima

