System: Classic
Manifold 2.1
Zone 1

Cooling

Water
Supply temperature 16,0 °C
Indoor temperature 26,0 °C
Pipe diameter 16 mm

Loop no.	L [m]	Pipe spacing [mm]	Heating capacity [W/m²]	Heat loss [W/m²]	Return temperature [°C]	m [kg/h]	Δp loop [kPa]	w [m/s]	Re [-]	Flow [l/min]
2.1.1	60.0	150.0	50.5	3.6	19.0	139.4	12.0	0.34	3853	2.3
2.1.2	67.0	150.0	50.5	3.6	19.0	155.8	14.2	0.38	4303	2.6
2.1.3	64.0	150.0	50.5	3.6	19.0	148.9	14.3	0.37	4110	2.5
2.1.5	60.0	150.0	50.5	3.6	19.0	139.4	12.0	0.34	3853	2.3

Average return temperature 19,0 °C

Summary
Flow 720 kg/h
SUM Loops length 311 m
Total pipe volume 50 l

Pressure drop
max. 19,1 kPa
Manifold 0,8 kPa
Loop 16,2 kPa

System: Classic
Manifold 2.2
Zone 1

Cooling

Water
Supply temperature 16,0 °C
Indoor temperature 26,0 °C
Pipe diameter 16 mm

Loop no.	L [m]	Pipe spacing [mm]	Heating capacity [W/m²]	Heat loss [W/m²]	Return temperature [°C]	m [kg/h]	Δp loop [kPa]	w [m/s]	Re [-]	Flow [l/min]
2.2.1	60.0	150.0	50.5	3.6	19.0	139.4	12.0	0.34	3853	2.3
2.2.2	61.0	150.0	50.5	3.6	19.0	141.7	12.4	0.35	3918	2.4
2.2.3	63.0	150.0	50.5	3.6	19.0	146.3	13.1	0.36	4046	2.4

Average return temperature 19,0 °C

Summary
Flow 409 kg/h
SUM Loops length 176 m
Total pipe volume 20 l

Pressure drop
max. 16,6 kPa
Manifold 0,4 kPa
Loop 13,2 kPa

System: Classic
Manifold 2.3
Zone 1

Cooling

Water
Supply temperature 16,0 °C
Indoor temperature 26,0 °C
Pipe diameter 16 mm

Loop no.	L [m]	Pipe spacing [mm]	Heating capacity [W/m²]	Heat loss [W/m²]	Return temperature [°C]	m [kg/h]	Δp loop [kPa]	w [m/s]	Re [-]	Flow [l/min]
2.3.1	60.0	150.0	50.5	3.6	19.0	139.4	12.0	0.34	3853	2.3
2.3.2	47.0	150.0	50.5	3.6	19.0	109.2	7.4	0.26	3017	1.8
2.3.3	47.0	150.0	50.5	3.6	19.0	109.2	7.4	0.26	3017	1.8

Average return temperature 19,0 °C

Summary
Flow 370 kg/h
SUM Loops length 169 m
Total pipe volume 18 l

Pressure drop
max. 13,7 kPa
Manifold 0,2 kPa
Loop 11,5 kPa

System: Classic
Manifold 2.4
Zone 1

Cooling

Water
Supply temperature 16,0 °C
Indoor temperature 26,0 °C
Pipe diameter 16 mm

Loop no.	L [m]	Pipe spacing [mm]	Heating capacity [W/m²]	Heat loss [W/m²]	Return temperature [°C]	m [kg/h]	Δp loop [kPa]	w [m/s]	Re [-]	Flow [l/min]
2.4.1	49.0	150.0	50.5	3.6	19.0	114.0	7.0	0.28	3147	1.9
2.4.2	43.0	150.0	50.5	3.6	19.0	100.0	4.9	0.25	2762	1.7

Average return temperature 19,0 °C

Summary
Flow 214 kg/h
SUM Loops length 92 m
Total pipe volume 10 l

Pressure drop
max. 8,6 kPa
Manifold 1,5 kPa
Loop 7,0 kPa

System: Classic
Manifold 2.5
Zone 1

Cooling

Water
Supply temperature 16,0 °C
Indoor temperature 26,0 °C
Pipe diameter 16 mm

Loop no.	L [m]	Pipe spacing [mm]	Heating capacity [W/m²]	Heat loss [W/m²]	Return temperature [°C]	m [kg/h]	Δp loop [kPa]	w [m/s]	Re [-]	Flow [l/min]
2.5.1	54.0	150.0	50.5	3.6	19.0	125.5	9.4	0.31	3482	2.1
2.5.2	57.0	150.0	50.5	3.6	19.0	132.4	10.5	0.33	3661	2.2
2.5.3	57.0	150.0	50.5	3.6	19.0	132.4	10.5	0.33	3661	2.2
2.5.4	49.0	150.0	50.5	3.6	19.0	113.9	7.0	0.28	3147	1.9
2.5.5	66.0	150.0	50.5	3.6	19.0	153.5	15.4	0.38	4239	2.6
2.5.6	60.0	150.0	50.5	3.6	19.0	139.4	12.0	0.34	3853	2.3

Average return temperature 19,0 °C

Summary
Flow 828 kg/h
SUM Loops length 354 m
Total pipe volume 40 l

Pressure drop
max. 18,3 kPa
Manifold 2,7 kPa
Loop 15,6 kPa

System: Classic
Manifold 2.6
Zone 1

Cooling

Water
Supply temperature 16,0 °C
Indoor temperature 26,0 °C
Pipe diameter 16 mm

Loop no.	L [m]	Pipe spacing [mm]	Heating capacity [W/m²]	Heat loss [W/m²]	Return temperature [°C]	m [kg/h]	Δp loop [kPa]	w [m/s]	Re [-]	Flow [l/min]
2.6.1	49.0	150.0	50.5	3.6	19.0	114.0	7.0	0.28	3147	1.9
2.6.2	49.0	150.0	50.5	3.6	19.0	114.0	7.0	0.28	3147	1.9
2.6.3	47.0	150.0	50.5	3.6	19.0	109.2	6.4	0.27	3017	1.8
2.6.4	56.0	150.0	50.5	3.6	19.0	130.2	10.0	0.32	3606	2.2

Average return temperature 19,0 °C

Summary
Flow 486 kg/h
SUM Loops length 209 m
Total pipe volume 24 l

Pressure drop
max. 13,1 kPa
Manifold 2,1 kPa
Loop 11,0 kPa

System: Classic
Manifold 2.7
Zone 1

Cooling

Water
Supply temperature 16,0 °C
Indoor temperature 26,0 °C
Pipe diameter 16 mm

Loop no.	L [m]	Pipe spacing [mm]	Heating capacity [W/m²]	Heat loss [W/m²]	Return temperature [°C]	m [kg/h]	Δp loop [kPa]	w [m/s]	Re [-]	Flow [l/min]
2.7.1	56.0	150.0	50.5	3.6	19.0	130.2	10.0	0.32	3606	2.2
2.7.2	64.0	150.0	50.5	3.6	19.0	148.9	14.3	0.37	4110	2.5
2.7.3	57.0	150.0	50.5	3.6	19.0	132.4	10.5	0.33	3661	2.2

Average return temperature 19,0 °C

Summary
Flow 416 kg/h
SUM Loops length 179 m
Total pipe volume 20 l

Pressure drop
max. 16,9 kPa
Manifold 0,6 kPa
Loop 14,3 kPa

System: Classic
Manifold 2.8
Zone 1

Cooling

Water
Supply temperature 16,0 °C
Indoor temperature 26,0 °C
Pipe diameter 16 mm

Loop no.	L [m]	Pipe spacing [mm]	Heating capacity [W/m²]	Heat loss [W/m²]	Return temperature [°C]	m [kg/h]	Δp loop [kPa]	w [m/s]	Re [-]	Flow [l/min]
2.8.1	58.0	150.0	50.5	3.6	19.0	134.9	11.0	0.33	3725	2.2
2.8.2	53.0	150.0	50.5	3.6	19.0	123.3	8.6	0.30	3404	2.1
2.8.3	57.0	150.0	50.5	3.6	19.0	132.4	10.5	0.33	3661	2.2
2.8.4	54.0	150.0	50.5	3.6	19.0	125.5	9.4	0.31	3482	2.1

Average return temperature 19,0 °C

Summary
Flow 514 kg/h
SUM Loops length 221 m
Total pipe volume 28 l

Pressure drop
max. 13,1 kPa
Manifold 2,1 kPa
Loop 11,0 kPa

System: Classic
Manifold 2.9
Zone 1

Cooling

Water
Supply temperature 16,0 °C
Indoor temperature 26,0 °C
Pipe diameter 16 mm

Loop no.	L [m]	Pipe spacing [mm]	Heating capacity [W/m²]	Heat loss [W/m²]	Return temperature [°C]	m [kg/h]	Δp loop [kPa]	w [m/s]	Re [-]	Flow [l/min]
2.9.1	60.0	150.0	50.5	3.6	19.0	139.4	12.0	0.34	3853	2.3
2.9.2	66.0	150.0	50.5	3.6	19.0	153.5	15.4	0.38	4239	2.6
2.9.3	64.0	150.0	50.5	3.6	19.0	148.9	14.3	0.37	4110	2.5
2.9.4	60.0	150.0	50.5	3.6	19.0	139.4	12.0	0.34	3853	2.3

Average return temperature 19,0 °C

Summary
Flow 719 kg/h
SUM Loops length 309 m
Total pipe volume 38 l

Pressure drop
max. 18,3 kPa
Manifold 2,7 kPa
Loop 15,6 kPa

System: Classic
Manifold 2.10
Zone 1

Cooling

Water
Supply temperature 16,0 °C
Indoor temperature 26,0 °C
Pipe diameter 16 mm

Loop no.	L [m]	Pipe spacing [mm]	Heating capacity [W/m²]	Heat loss [W/m²]	Return temperature [°C]	m [kg/h]	Δp loop [kPa]	w [m/s]	Re [-]	Flow [l/min]
2.10.1	72.0	150.0	50.5	3.6	19.0	167.5	19.8	0.41	4624	2.8
2.10.2	64.0	150.0	50.5	3.6	19.0	148.9	14.3	0.37	4110	2.5

Average return temperature 19,0 °C

Summary
Flow 316 kg/h
SUM Loops length 136 m
Total pipe volume 15 l

Pressure drop
max. 23,0 kPa
Manifold 3,3 kPa
Loop 19,8 kPa

System: Classic
Manifold 2.11
Zone 1

Cooling

Water
Supply temperature 16,0 °C
Indoor temperature 26,0 °C
Pipe diameter 16 mm

Loop no.	L [m]	Pipe spacing [mm]	Heating capacity [W/m²]	Heat loss [W/m²]	Return temperature [°C]	m [kg/h]	Δp loop [kPa]	w [m/s]	Re [-]	Flow [l/min]
2.11.1	60.0	150.0	50.5	3.6	19.0	139.4	12.0	0.34	3853	2.3
2.11.2	67.0	150.0	50.5	3.6	19.0	155.8	14.2	0.38	4303	2.6
2.11.3	64.0	150.0	50.5	3.6	19.0	148.9	14.3	0.37	4110	2.5
2.11.4	60.0	150.0	50.5	3.6	19.0	139.4	12.0	0.34	3853	2.3
2.11.5	65.0	150.0	50.5	3.6	19.0	151.1	13.7	0.37	4175	2.5
2.11.6	63.0	150.0	50.5	3.6	19.0	146.5	13.7	0.36	4046	2.4
2.11.7	70.0	150.0	50.5	3.6	19.0	162.8	18.3	0.40	4496	2.7
2.11.8	64.0	150.0	50.5	3.6	19.0	148.9	14.3	0.37	4110	2.5

Average return temperature 19,0 °C

Summary
Flow 1182 kg/h
SUM Loops length 508 m
Total pipe volume 57 l

Pressure drop
max. 21,4 kPa
Manifold 3,1 kPa
Loop 18,3 kPa

System: Classic
Manifold 2.12
Zone 1

Cooling

Water
Supply temperature 16,0 °C
Indoor temperature 26,0 °C
Pipe diameter 16 mm

Loop no.	L [m]	Pipe spacing [mm]	Heating capacity [W/m²]	Heat loss [W/m²]	Return temperature [°C]	m [kg/h]	Δp loop [kPa]	w [m/s]	Re [-]	Flow [l/min]
2.12.1	56.0	150.0	50.5	3.6	19.0	130.2	10.0	0.32	3606	2.2
2.12.2	64.0	150.0	50.5	3.6	19.0	148.9	14.3	0.37	4110	2.5
2.12.3	56.0	150.0	50.5	3.6	19.0	130.2	10.0	0.32	3606	2.2

Average return temperature 19,0 °C

Summary
Flow 412 kg/h
SUM Loops length 177 m
Total pipe volume 20 l

Pressure drop
max. 16,9 kPa
Manifold 2,6 kPa
Loop 14,3 kPa

System: Classic
Manifold 2.13
Zone 1

Cooling

Water
Supply temperature 16,0 °C
Indoor temperature 26,0 °C
Pipe diameter 16 mm

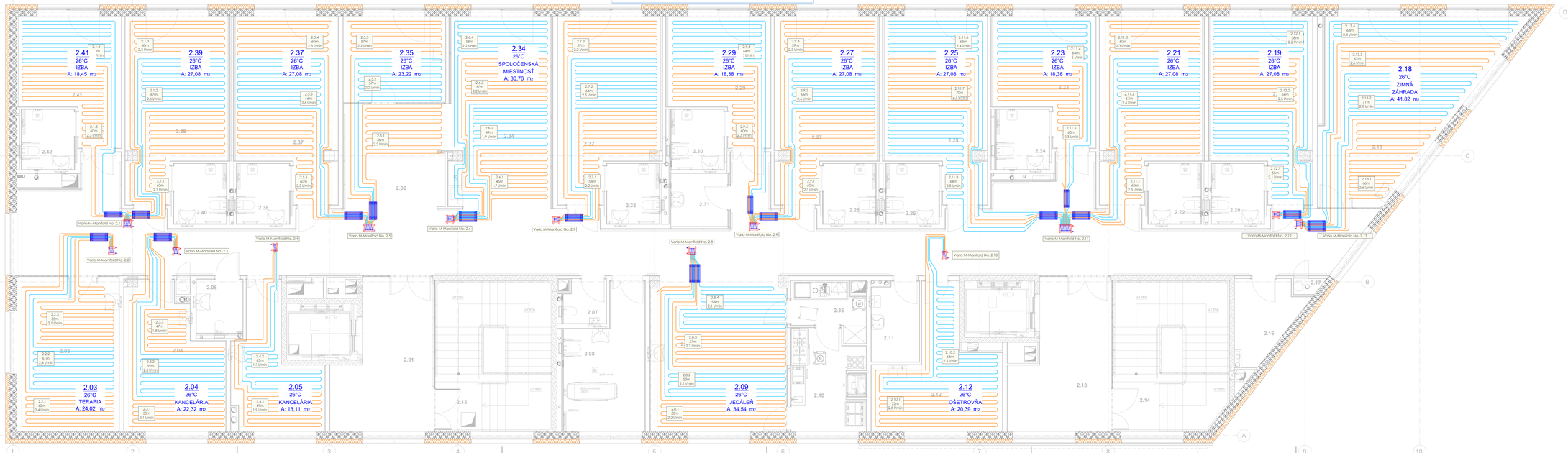
Loop no.	L [m]	Pipe spacing [mm]	Heating capacity [W/m²]	Heat loss [W/m²]	Return temperature [°C]	m [kg/h]	Δp loop [kPa]	w [m/s]	Re [-]	Flow [l/min]
2.13.1	66.0	150.0	50.5	3.6	19.0	153.5	15.4	0.38	4239	2.6
2.13.2	71.0	150.0	50.5	3.6	19.0	165.1	19.0	0.41	4560	2.8
2.13.3	67.0	150.0	50.5	3.6	19.0	155.8	16.2	0.39	4303	2.6
2.13.4	63.0	150.0	50.5	3.6	19.0	146.5	13.7	0.36	4046	2.4

Average return temperature 19,0 °C

Summary
Flow 621 kg/h
SUM Loops length 247 m
Total pipe volume 30 l

Pressure drop
max. 22,2 kPa
Manifold 3,5 kPa
Loop 19,0 kPa

LEGENDA MIESTNOSTÍ 2.NP		
Č.M.	NÁZOV MIESTNOSTI	PODLOŽIE
2.01	PREDSIEŇ	20,81
2.02	CHODBA	140,14
2.03	TERAPIA	24,02
2.04	KANCELÁRIA	20,14
2.05	TERAPIA	14,88
2.06	WC ZAM.	3,93
2.07	WC ZAM.	2,83
2.08	KÚPEĽŇA	15,90
2.09	RELAX. TERAP. MIESTNOSŤ	33,31
2.10	VÝTAH STRAVY	11,94
2.11	DATASCA M.	5,92
2.12	OŠETROVŇA	19,82
2.13	PREDSIEŇ	20,90
2.14	SOCIÁLNE ZARIADENIE	3,87
2.15	SOCIÁLNE ZARIADENIE	3,88
2.16	SKLADOVÝ PRIESTOR	7,14
2.17	SPOL. ODPAD.-ŠACHTA	0,87
2.18	TERAPIA	41,82
2.19	ZÁHRADA	27,36
2.20	KÚPEĽŇA	5,04
2.21	ZÁHRADA	27,36
2.22	KÚPEĽŇA	5,04
2.23	ZÁHRADA	18,61
2.24	KÚPEĽŇA	5,04
2.25	ZÁHRADA	27,39
2.26	KÚPEĽŇA	5,04
2.27	ZÁHRADA	27,36
2.28	KÚPEĽŇA	5,04
2.29	ZÁHRADA	18,41
2.30	KÚPEĽŇA	5,04
2.31	SPRÁVCOVŇA	4,74
2.32	ZÁHRADA	27,48
2.33	KÚPEĽŇA	5,04
2.34	RELAX. TERAP. MIESTNOSŤ	48,70
2.35	RESTERNA	14,58
2.36	UMÝVÁRNE	5,51
2.37	ZÁHRADA	27,37
2.38	KÚPEĽŇA	5,04
2.39	ZÁHRADA	27,41
2.40	KÚPEĽŇA	5,04
2.41	ZÁHRADA	18,83
2.42	KÚPEĽŇA	5,04
		765,72 m²



LEGENDA NAVRHNUTÝCH UMIESTNENÍ

- Uponor PE-Xa 14x2,0mm
- Uponor PE-Xa 16x2,0mm
- Rozdeľovač Uponor Manifold Vario
- 1,3 Číslo okruhu
- Prechod do betónového stropu
- Prechod rozvodov chladenia do betónového stropu

POZNÁMKA - STROPNÉ CHLADENIE

1. TEPLOTA CHLADIACEJ VODY PRE VYPOČTOVÝ STAV STROPNÉHO CHLADENIA JE 16/19°C
2. STROPNÉ CHLADENIE JE NAVRHNUTÉ SYSTÉMOM UPONOR CONTEC DO BETÓNOVÉHO JADRA NAD OCELOVÚ VÝSTUŽ RÚRKAMI TYP COMFORT PIPE PLUS ROZMERU 16x2mm.
3. NAVRHNUTÝ SYSTÉM JE ZABLOKOVANÝ DO KONŠTRUKCIE STROPU A ANTIVLUČ BETÓNOVÉ JADRO.
4. UMLADNENIE VYKUROVACÍCH OKRUHOV JE NAVRHNUTÉ DO MEADRA PRE DOSIAHNUTIE POŽADOVANÉHO CHLADIACEHO VÝKONU S DODRŽANÍM ROZDELENIA ROZDIELU PO RÚROK 150mm.
5. PRE STROPNÉ CHLADENIE JE NAVRHNUTÝ ROZDEĽOVAČ UPONOR VARIO M UMIESTNENÝ POD STROPOM S PRIETOKOMEROM A MECHANICKÝM ODVZDUŠNENÍM A VYPÚŠŤANÍM.
6. REGULÁCIA SMATRIX BASE PRO JE RIEŠENÁ PROGRAMOVATEĽNÝM TERMOSTATOM T-247 V SKRINKE.

SO 09 - S.-JTSK = ±0,000 = 137,200 m.n.m.

NÁZOV PROJEKTU: **SOCIÁLNO-KOMUNITNÉ CENTRUM, BEŇOVLADOVO**	ČASŤ: E1.4 VYKUROVANIE A CHLADENIE	OBSAH: Podorys 2.NP Stropné chladenie
NÁZOV STAVEBNÉHO OBJEKTU: **SOCIÁLNE ZARIADENIE NÁDCHAPAJÚCE ZARIADENIE (SZNZ - RODINA)**		
KÓD PROFESIE: VYK	DÁTUM: 10/2025	ČÍSLO VÝKRESU: E1.4.8
	STAVEB. OBJEKT: SO 09	FORMÁT: 14 x A4
ČÍSLO ZAZV:	MIERKA: 1:50	STUPEŇ PD: RP

Autor návrhu: N/A n.r.o.
Zodpovedný projektant: Ing. Stanislav Mečiar
Vypracoval: Ing. Stanislav Mečiar
Miesto stavby: parc. č. 2773/457, 2773/458, 2773/459, 2773/460, 2773/461, 2773/462
Katastrálna územie: 900 27 Beňadikovo

INVESTOR: OLIDOS, n. r. o., Šúrovská 2, Bratislava 821 05

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