

General results: Arvutamine

Property	Value	Unit
Software version:	MagiCAD 2022	
Calculation date:	30/06/2023 09:41	
Project:		
Location:		
Author:		
Design area:	Arvutamine	
Hazard class:	LH - Light hazard LH	
Hydraulic model:	Hazen-Williams	
Calculation is based on:	EN 12845	
Note:	Equiv. length of short connection branches is ignored	L < 50 mm
Fluid characteristics:		
Density:	1000	[kg/m³]
Dynamic viscosity:	1560.20	[kg/ms x 10e-6]
Calculation input values:		
Area of design area:	56.4	[m²]
Feed point:	22	H = -0.9 [m]
Weakest sprinkler:	19	H = 9.7 [m]
Pressure at the weakest sprinkler:	300	[mbar]
Max number of iterations:	100	
Max inaccuracy of the pressure:	1.0	[mbar]
Max inaccuracy of the flow:	0.1	[l/min]
C-factors of the pipes and K-factors of the sprinklers:		
Fe-35: Steel pipe Fe-35	120	
SP-15-K57-68DGR-STD	57.0	
Calculation results:		
Pressure level at the feed point:	1462	[mbar]
Flow at the feed point:	141.5	[l/min]
Flow at the weakest sprinkler:	31.2	[l/min]
Number of iterations:	2	
Inaccuracy of the pressure:	0.04	[mbar]

Sprinkler report

Property	Value	Unit
Inaccuracy of the flow:	0.08	[l/min]
Total area of coverage:	36.0	[m²]
Average area of coverage:	12.0	[m²]
Flow density at the weakest sprinkler:	2.60	[mm/min]
Average density of 4 weakest sprinklers:	3.93	[mm/min]
Four weakest sprinklers:	16, 19, 4, -	
Average flow density:	3.93	[mm/min]
Number of sprinklers:	3	
Average sprinkler height:	4.9	[m]
Volume:Sprinkler 1	65.3	[l]

Sprinkler results: Arvutamine

Level	Node	Product	Size	k-factor	Height [m]	qv dim [l/min]	pr (req) [mbar]	pt (act) [mbar]	dpt [mbar]	Area [m²]	fd (req) [mm/min]	fd (act) [mm/min]	dfd [mm/min]
2. korrus	4	SP-15-K57-68DGR-STD	15 (FL)	57.0	5.8	45.7	300	643	+343	12.0	2.25	3.81	+1.56
kelder	16	SP-15-K57-68DGR-STD	15 (FL)	57.0	-0.8	64.5	300	1281	+981	12.0	2.25	5.38	+3.13
3. korrus	19	SP-15-K57-68DGR-STD	15 (FL)	57.0	9.7	31.2	300	300	0	12.0	2.25	2.60	+0.35

System results: Arvutamine

Level	From	To	k-factor	C-factor	Height [m]	qv [l/min]	v [m/s]	Size [mm]	L [m]	Leqv [m]	Parts	User code	p start [mbar]	p end [mbar]	dpt [mbar]	dp Hst [mbar]	dp (flow) [mbar]	dp/m (flo) [mbar]	Warnings
kelder	8	10		120	-0.9	95.7	1.1	43.1	2.3	4.7	1xT		1394	1373	21		21	8.9	
kelder	8	23		120	3.0	45.7	0.5	43.1	13.1	14.2	2xB90		1394	991	402	387	16	1.2	
kelder	10	16	57.0	120	-0.8	64.5	1.7	28.5	2.6	5.2	3xB90, 1xT		1373	1281	92	10	82	31.3	
kelder	10	21		120	3.0	31.3	0.4	43.1	4.2	4.8	1xB90		1373	984	389	387	3	0.6	
1. korrus	21	25		120	6.5	31.3	0.5	37.2	3.5	3.5			984	634	350	346	4	1.1	
kelder	22	8		120	-0.9	141.5	1.6	43.1	7.0	7.6	1xB90		1462	1394	68		68	9.7	
1. korrus	23	24		120	6.5	45.7	0.7	37.2	4.8	7.4	1xB90, 1xT		991	628	363	346	17	3.5	
2. korrus	24	4	57.0	120	5.8	45.7	1.2	28.5	3.5	6.4	4xB90, 1xT		628	643	-15	-69	54	15.4	
2. korrus	25	19	57.0	120	9.7	31.2	0.8	28.5	4.9	6.0	3xB90		634	300	334	309	25	5.0	

Equivalent length values: Arvutamine

Type	User code	Product	Size [mm]	Leqv [m]
Bend 90° welded			25	0.36
			32	0.49
			40	0.56

Sprinkler report

Type	User code	Product	Size [mm]	Leqv [m]
T-Branch threaded			32/ 25	1.50
			40/ 25	1.50
			40/ 32	2.10
			40/ 40	2.40