

# Property

	Value	Unit
Software version:	MagiCAD 2016.11	
Calculation date:	31.05.2017 12:33	
Project:	Os barnehage	
Project number:	16014	
Location:		
Author:		
Person responsible of sprinkler calculations:	TS	
Design area:	72m <sup>2</sup> - Vest	
Hazard class:	OH1, Ordinary Hazard Group 1	
Hydraulic model:	Hazen-Williams	
Calculation is based on:	EN 12845	
Note:	Equiv. length of short connection b <sub>1</sub> L < 50 mm	
Fluid characteristics:		
Density:	1000	[kg/m <sup>3</sup> ]
Dynamic viscosity:	1560.20	[kg/ms x 10e-6]
Calculation input values:		
Area of design area:	72.7	[m <sup>2</sup> ]
Feed point:	1	H = 0.1 [m]
Weakest sprinkler:	21	H = 2.7 [m]
Pressure at the weakest sprinkler:	562	[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:		
DN	120	
SSP-H-80 - i himling	80	
Calculation results:		
Pressure level at the feed point:	3058	[mbar]
Flow at the feed point:	980.0	[l/min]
Flow at the weakest sprinkler:	60.0	[l/min]
Number of iterations:	2	
Inaccuracy of the pressure:	0.04	[mbar]
Inaccuracy of the flow:	0.04	[l/min]
Total area of coverage:	144.0	[m <sup>2</sup> ]
Average area of coverage:	12.0	[m <sup>2</sup> ]
Flow density at the weakest sprinkler:	5.00	[mm/min]
Average density of 4 weakest sprinklers:	5.34	[mm/min]
Four weakest sprinklers:	20, 18, 26, 21	
Average flow density:	6.81	[mm/min]
Number of sprinklers:	12	
Average sprinkler height:	2.6	[m]

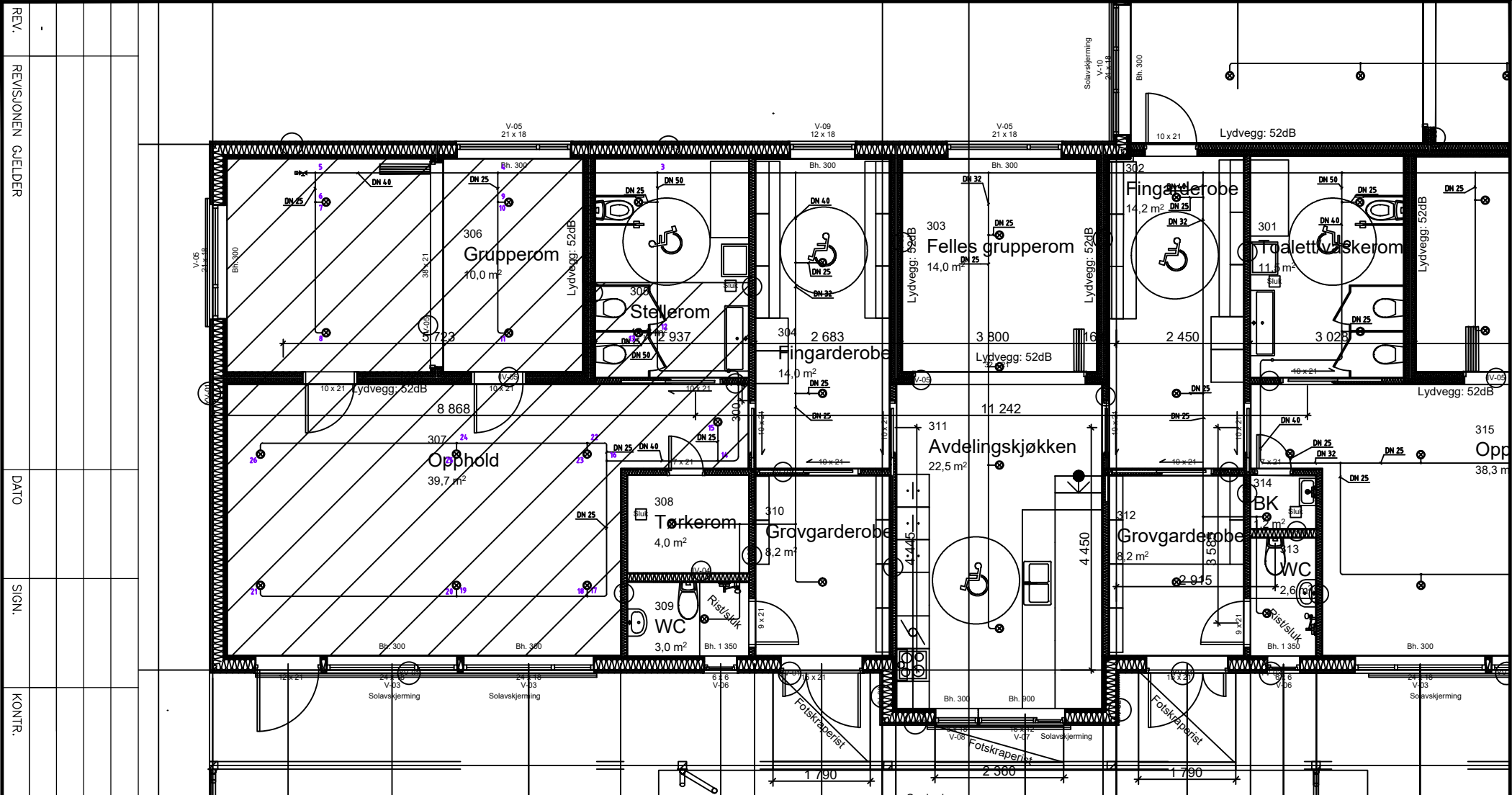
# MagiCAD HPV - Sprinkler calculations

Level	From	To	k-factor	C-factor	Height [m]	qv [l/min]	v [m/s]	Size [mm]	L [m]	Leqv [m]	Parts	User code	ptot start [mbar]	ptot end [mbar]	dpt [mbar]	dp Hst [mbar]	dp (dim) [mbar]
1. etasje	1	2		120	2.5	979.9	1.8	107.1	22.1	38.8	3xB90, 1xT, 1xV	VIC 011	3058	2674	384	235	149
1. etasje	2	3		120	2.5	979.9	4.2	70.3	19.9	23.7	1xT		2674	1968	706		706
1. etasje	3	12		120	2.5	596.9	4.3	54.5	2.9	5.8	1xT		1968	1728	240		240
1. etasje	3	4		120	2.5	383.1	4.4	43.1	2.9	2.9			1968	1801	166		166
1. etasje	4	9		120	2.5	192.9	5.0	28.5	0.5	2.0	1xT		1801	1557	244		244
1. etasje	4	5		120	2.5	190.1	2.2	43.1	3.4	3.4			1801	1749	52		52
1. etasje	5	6		120	2.5	190.1	5.0	28.5	0.5	2.0	1xT		1749	1512	237		237
1. etasje	6	7	80	120	2.4	95.9	2.5	28.5	0.3	2.6	1xB90, 1xT		1512	1437	75	-10	84
1. etasje	6	8	80	120	2.4	94.2	2.5	28.5	2.7	4.2	2xB90		1512	1387	125	-10	135
1. etasje	9	10	80	120	2.4	97.3	2.5	28.5	0.3	2.6	1xB90, 1xT		1557	1480	77	-10	87
1. etasje	9	11	80	120	2.4	95.6	2.5	28.5	2.7	4.2	2xB90		1557	1428	129	-10	138
1. etasje	12	13	80	120	2.4	102.3	2.7	28.5	0.4	2.7	1xB90, 1xT		1728	1637	91	-10	101
1. etasje	12	14		120	2.8	494.5	3.5	54.5	4.5	7.9	5xB90		1728	1470	258	27	231
1. etasje	14	15	80	120	2.7	94.0	2.5	28.5	0.8	3.1	1xB90, 1xT		1470	1382	88	-10	98
1. etasje	14	16		120	2.8	400.5	4.6	43.1	2.0	2.0			1470	1344	126		126
1. etasje	16	17		120	2.8	189.7	5.0	28.5	2.8	5.1	1xB90, 1xT		1344	751	593		593
1. etasje	16	22		120	2.8	210.8	5.5	28.5	0.7	3.0	1xB90, 1xT		1344	927	416		416
1. etasje	17	18	80	120	2.7	67.7	1.8	28.5	0.3	2.6	1xB90, 1xT		751	716	35	-10	44
1. etasje	17	19		120	2.8	122.0	3.2	28.5	2.4	2.4			751	628	123		123
1. etasje	19	20	80	120	2.7	62.0	1.6	28.5	0.3	2.6	1xB90, 1xT		628	600	28	-10	38
1. etasje	19	21	80	120	2.7	60.0	1.6	28.5	3.9	5.4	2xB90		628	562	65	-10	75
1. etasje	22	23	80	120	2.7	75.2	2.0	28.5	0.3	2.6	1xB90, 1xT		927	883	44	-10	54
1. etasje	22	24		120	2.8	135.6	3.5	28.5	2.4	2.4			927	778	150		150
1. etasje	24	25	80	120	2.7	68.9	1.8	28.5	0.3	2.6	1xB90, 1xT		778	742	36	-10	46
1. etasje	24	26	80	120	2.7	66.7	1.7	28.5	3.9	5.4	2xB90		778	696	82	-10	91

# MagiCAD HPV - Sprinkler calculations

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Level	Node	Product	Size	k-factor	Height	qv dim	pt (req)	pt (act)	dpt	Area	fd (req)	fd (act)	dfd
					[m]	[l/min]	[mbar]	[mbar]	[mbar]	[m <sup>2</sup> ]	mm/min	mm/min	mm/min
1. etasje	7	SSP-H-80 - i himling	25	80	2.4	95.9	563	1437	+875	12.0	5.00	7.99	+2.99
1. etasje	8	SSP-H-80 - i himling	25	80	2.4	94.2	563	1387	+824	12.0	5.00	7.85	+2.85
1. etasje	10	SSP-H-80 - i himling	25	80	2.4	97.3	563	1480	+918	12.0	5.00	8.11	+3.11
1. etasje	11	SSP-H-80 - i himling	25	80	2.4	95.6	563	1428	+866	12.0	5.00	7.97	+2.97
1. etasje	13	SSP-H-80 - i himling	25	80	2.4	102.3	563	1637	+1074	12.0	5.00	8.53	+3.53
1. etasje	15	SSP-H-80 - i himling	25	80	2.7	94.0	563	1382	+819	12.0	5.00	7.84	+2.84
1. etasje	18	SSP-H-80 - i himling	25	80	2.7	67.7	563	716	+154	12.0	5.00	5.64	+0.64
1. etasje	20	SSP-H-80 - i himling	25	80	2.7	62.0	563	600	+37	12.0	5.00	5.16	+0.16
1. etasje	21	SSP-H-80 - i himling	25	80	2.7	60.0	563	562	-0	12.0	5.00	5.00	
1. etasje	23	SSP-H-80 - i himling	25	80	2.7	75.2	563	883	+321	12.0	5.00	6.27	+1.27
1. etasje	25	SSP-H-80 - i himling	25	80	2.7	68.9	563	742	+179	12.0	5.00	5.74	+0.74
1. etasje	26	SSP-H-80 - i himling	25	80	2.7	66.7	563	696	+134	12.0	5.00	5.56	+0.56



REV.	
REVISJONEN GJELDER	
DATE	
SIGN.	
KONTR.	

Nodetegning



DATO	UTFØRT	KONTROLLERT
ORDRENR. 16014	MÅLESTOKK 1:100 A4	
TEGNINGSNUMMER	REVISJON	