

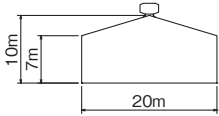
SVM型連続型ベンチレーター算出法

長さを求める場合(型式が決められている)

$$L = \frac{aV}{60Q}$$

L：連続型ベンチレーターの全長(m)
a：建物1時間当たりの換気回数
Q：連続型ベンチレーターの1m当たりの排気量(m³/min)
V：建物の容積(m³)

■例：鑄造工場



a=20回/h V=8,500m³ 設置高=10m
室内外温度差=5℃ 外気風速=3m/s
SVM-1200で上記の条件の場合
P.20性能表より、Q=81.7m³/min

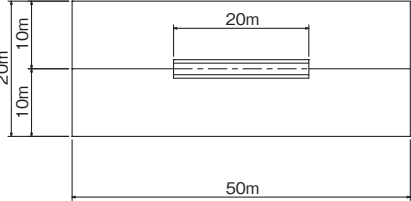
$$L = \frac{20 \times 8,500}{60 \times 81.7} \approx 35\text{m}$$
となり
長さ35mが求められます。

使用型式を求める場合(長さが決められている)

$$Q = \frac{aV}{60L}$$

Q：連続型ベンチレーターの1m当たりの排気量(m³/min)
a：建物1時間当たりの換気回数
L：連続型ベンチレーターの全長
V：建物の容積(m³)

■例：機械工場



a=10回/h V=8,500m³ 設置高=10m
室内外温度差=5℃ 外気風速=3m/s
L=20mで上記の条件の場合

$$Q = \frac{10 \times 8,500}{60 \times 20} \approx 70.8\text{m³/min}$$

よってP.20性能表よりSVM-1200の
81.7m³/minに近い数値となり、
SVM-1200が適当となります。

SVM(標準型)風量性能表 (1m当たりm³/min)

型式		Δt=3℃						Δt=5℃						Δt=10℃						Δt=15℃					
		5	10	15	20	25	30	5	10	15	20	25	30	5	10	15	20	25	30	5	10	15	20	25	30
SVM-400	1	12.3	16.2	19.2	21.9	24.3	26.4	15.0	20.2	24.3	27.8	30.9	33.7	20.2	27.8	33.7	38.8	43.2	47.3	24.3	33.7	41.1	47.3	52.7	57.7
	2	16.6	19.6	22.3	24.6	26.7	28.7	18.7	23.1	26.7	30.0	32.9	35.5	23.1	30.0	35.5	40.3	44.6	48.6	26.7	35.5	42.5	48.6	53.9	58.8
	3	22.0	24.4	26.5	28.5	30.4	32.1	23.6	27.2	30.4	33.3	35.9	38.4	27.2	33.3	38.4	42.9	46.9	50.7	30.4	38.4	44.9	50.7	55.8	60.5
	4	27.9	29.8	31.6	33.3	34.9	36.4	29.2	32.1	34.9	37.4	39.8	42.0	32.1	37.4	42.0	46.1	49.9	53.5	34.9	42.0	48.1	53.5	58.4	62.9
	5	34.0	35.5	37.0	38.5	39.9	41.2	35.0	37.5	39.9	42.1	44.2	46.3	37.5	42.1	46.3	50.0	53.6	56.9	39.9	46.3	51.8	56.9	61.5	65.8
SVM-450	1	13.8	18.2	21.7	24.6	27.3	29.7	16.9	22.7	27.3	31.3	34.8	37.9	22.7	31.3	37.9	43.6	48.6	53.2	27.3	37.9	46.2	53.2	59.3	64.9
	2	18.7	22.1	25.0	27.7	30.1	32.3	21.0	26.0	30.1	33.7	37.0	40.0	26.0	33.7	40.0	45.4	50.2	54.6	30.1	40.0	47.9	54.6	60.6	66.1
	3	24.8	27.4	29.9	32.1	34.2	36.2	26.6	30.6	34.2	37.4	40.4	43.2	30.6	37.4	43.2	48.2	52.8	57.0	34.2	43.2	50.6	57.0	62.8	68.1
	4	31.4	33.5	35.5	37.4	39.2	41.0	32.8	36.2	39.2	42.1	44.7	47.2	36.2	42.1	47.2	51.9	56.2	60.2	39.2	47.2	54.1	60.2	65.7	70.7
	5	38.2	40.0	41.7	43.3	44.9	46.4	39.4	42.2	44.9	47.4	49.8	52.0	42.2	47.4	52.0	56.3	60.3	64.0	44.9	52.0	58.3	64.0	69.2	74.0
SVM-500	1	15.4	20.2	24.1	27.4	30.4	33.1	18.7	25.2	30.4	34.7	38.6	42.2	25.2	34.7	42.2	48.5	54.0	59.1	30.4	42.2	51.3	59.1	65.9	72.1
	2	20.8	24.6	27.8	30.8	33.4	35.9	23.4	28.8	33.4	37.4	41.1	44.4	28.8	37.4	44.4	50.4	55.8	60.7	33.4	44.4	53.2	60.7	67.4	73.5
	3	27.5	30.5	33.2	35.7	38.0	40.2	29.5	34.0	38.0	41.6	44.9	47.9	34.0	41.6	47.9	53.6	58.7	63.3	38.0	47.9	56.2	63.3	69.8	75.6
	4	34.9	37.2	39.5	41.6	43.6	45.5	36.5	40.2	43.6	46.7	49.7	52.5	40.2	46.7	52.5	57.7	62.4	66.8	43.6	52.5	60.1	66.8	73.0	78.6
	5	42.4	44.4	46.3	48.1	49.9	51.6	43.8	46.9	49.9	52.6	55.3	57.8	46.9	52.6	57.8	62.6	67.0	71.1	49.9	57.8	64.8	71.1	76.9	82.3
SVM-600	1	18.5	24.2	28.9	32.9	36.4	39.7	22.5	30.3	36.4	41.7	46.3	50.6	30.3	41.7	50.6	58.1	64.8	70.9	36.4	50.6	61.6	70.9	79.1	86.5
	2	24.9	29.5	33.4	36.9	40.1	43.1	28.0	34.6	40.1	44.9	49.3	53.3	34.6	44.9	53.3	60.5	67.0	72.8	40.1	53.3	63.8	72.8	80.9	88.2
	3	33.0	36.6	39.8	42.8	45.6	48.2	35.4	40.8	45.6	49.9	53.8	57.5	40.8	49.9	57.5	64.3	70.4	76.0	45.6	57.5	67.4	76.0	83.7	90.8
	4	41.8	44.7	47.4	49.9	52.3	54.6	43.7	48.2	52.3	56.1	59.6	63.0	48.2	56.1	63.0	69.2	74.9	80.2	52.3	63.0	72.1	80.2	87.6	94.3
	5	50.9	53.3	55.6	57.7	59.8	61.9	52.5	56.3	59.8	63.2	66.3	69.4	56.3	63.2	69.4	75.1	80.4	85.3	59.8	69.4	77.8	85.3	92.3	98.7
SVM-750	1	23.1	30.3	36.1	41.1	45.5	49.6	28.1	37.8	45.5	52.1	57.9	63.2	37.8	52.1	63.2	72.7	81.0	88.6	45.5	63.2	77.0	88.6	98.9	108.2
	2	31.2	36.8	41.7	46.1	50.1	53.8	35.1	43.3	50.1	56.2	61.6	66.6	43.3	56.2	66.6	75.6	83.7	91.1	50.1	66.6	79.8	91.1	101.1	110.2
	3	41.3	45.7	49.8	53.5	57.0	60.3	44.3	51.0	57.0	62.4	67.3	71.9	51.0	62.4	71.9	80.4	88.0	95.0	57.0	71.9	84.3	95.0	104.6	113.5
	4	52.3	55.8	59.2	62.4	65.4	68.3	54.7	60.3	65.4	70.1	74.6	78.7	60.3	70.1	78.7	86.5	93.6	100.3	65.4	78.7	90.1	100.3	109.4	117.9
	5	63.7	66.6	69.5	72.2	74.8	77.3	65.7	70.4	74.8	79.0	82.9	86.7	70.4	79.0	86.7	93.8	100.4	106.6	74.8	86.7	97.2	106.6	115.3	123.4
SVM-900	1	27.7	36.3	43.3	49.3	54.6	59.5	33.7	45.4	54.6	62.5	69.5	75.9	45.4	62.5	75.9	87.2	97.2	106.3	54.6	75.9	92.4	106.3	118.7	129.8
	2	37.4	44.2	50.1	55.4	60.2	64.6	42.1	51.9	60.2	67.4	73.9	79.9	51.9	67.4	79.9	90.8	100.4	109.3	60.2	79.9	95.7	109.3	121.3	132.2
	3	49.6	54.9	59.7	64.2	68.4	72.3	53.2	61.2	68.4	74.8	80.8	86.3	61.2	74.8	86.3	96.4	105.6	114.0	68.4	86.3	101.1	114.0	125.6	136.2
	4	62.7	67.0	71.0	74.8	78.4	81.9	65.6	72.3	78.4	84.1	89.5	94.5	72.3	84.1	94.5	103.8	112.4	120.3	78.4	94.5	108.2	120.3	131.3	141.5
	5	76.4	79.9	83.3	86.6	89.8	92.8	78.8	84.4	89.8	94.8	99.5	104.1	84.4	94.8	104.1	112.6	120.5	128.0	89.8	104.1	116.6	128.0	138.4	148.1
SVM-1000	1	30.8	40.4	48.1	54.8	60.7	66.1	37.4	50.4	60.7	69.5	77.2	84.3	50.4	69.5	84.3	96.9	108.0	118.1	60.7	84.3	102.6	118.1	131.8	144.2
	2	41.6	49.1	55.7	61.5	66.8	71.8	46.7	57.7	66.8	74.9	82.2	88.8	57.7	74.9	88.8	100.9	111.6	121.4	66.8	88.8	106.4	121.4	134.8	146.9
	3	55.1	61.0	66.3	71.3	76.0	80.4	59.1	68.0	76.0	83.1	89.7	95.9	68.0	83.1	95.9	107.1	117.3	126.7	76.0	95.9	112.3	126.7	139.5	151.3
	4	69.7	74.5	78.9	83.1	87.2	91.0	72.9	80.4	87.2	93.5	99.4	105.0	80.4	93.5	105.0	115.3	124.8	133.7	87.2	105.0	120.2	133.7	145.9	157.2
	5	84.9	88.8	92.6	96.2	99.7	103.1	87.5	93.8	99.7	105.3	110.6	115.6	93.8	105.3	115.6	125.1	133.9	142.2	99.7	115.6	129.6	142.2	153.8	164.5
SVM-1200	1	36.9	48.5	57.7	65.7	72.8	79.3	44.9	60.5	72.8	83.4	92.7	101.2	60.5	83.4	101.2	116.3	129.7	141.8	72.8	101.2	123.2	141.8	158.2	173.1
	2	49.9	58.9	66.8	73.8	80.2	86.1	56.1	69.2	80.2	89.9	98.6	106.6	69.2	89.9	106.6	121.0	133.9	145.7	80.2	106.6	127.6	145.7	161.7	176.3
	3	66.1	73.2	79.6	85.6	91.2	96.4	70.9	81.7	91.2	99.8	107.7	115.1	81.7	99.8	115.1	128.6	140.8	152.0	91.2	115.1	134.8	152.0	167.4	181.6
	4	83.6	89.3	94.7	99.8	104.6	109.2	87.5	96.4	104.6	112.2	119.3	126.0	96.4	112.2	126.0	138.4	149.8	160.4	104.6	126.0	144.2	160.4	175.1	188.7
	5	101.9	106.6	111.1	115.5	119.7	123.7	105.0	112.6	119.7	126.4	132.7	138.8	112.6	126.4	138.8	150.1	160.7	170.6	119.7	138.8	155.5	170.6	184.5	197.4
SVM-1500	1	46.1	60.6	72.2	82.2	91.1	99.2	56.2	75.6	91.1	104.2	115.9	126.5	75.6	104.2	126.5	145.4	162.1	177.2	91.1	126.5	153.9	177.2	197.8	216.4
	2	62.4	73.7	83.5	92.3	100.3	107.7	70.1	86.5	100.3	112.3	123.2	133.2	86.5	112.3	133.2	151.3	167.4	182.1	100.3	133.2	159.6	182.1	202.2	220.4
	3	82.6	91.5	99.5	107.0	114.0	120.5	88.6	102.1	114.0	124.7	134.6	143.8	102.1	124.7	143.8	160.7	176.0	190.0	114.0	143.8	168.5	190.0	209.3	226.9
	4	104.6	111.7	118.4	124.7	130.7	136.5	109.4	120.5	130.7	140.2	149.1	157.5	120.5	140.2	157.5	173.0	187.3	200.5	130.7	157.5	180.3	200.5	218.9	235.8
	5	127.3	133.2	138.9	144.4	149.6	154.7	131.3	140.7	149.6	157.9	165.9	173.4	140.7	157.9	173.4	187.7	200.9	213.3	149.6	173.4	194.4	213.3	230.6	246.8
SVM-1800	1	55.4	72.7	86.6	98.6	109.3	119.0	67.4	90.8	109.3	125.0	139.0	151.8	90.8	125.0	151.8	174.4	194.5	212.6	109.3					