

DUCTWORK STATIC CALCULATION

SI.No	Ductwork Element	Duct size (mm)			(or)	D _H	Volume	Velocity	V _p	Re	e	f	Σ C	Length	Loss
		W	x	H	Dia	(mm)	(m ³ /hr)	(m/s)	(Pa)					(m)	(Pa)
1	Intake	600	x	600		600	4760	3.67	8.1	146326	0.150	0.0181	0.50		4.0
2	Pre Filter (G4, 2")	600	x	600		600	4760	3.67	8.1	146326	0.150	0.0181			150.0
3	6 row cooling coil	600	x	600		600	4760	3.67	8.1	146326	0.150	0.0181			300.0
4	Fan in plenum	600	x	300		400	4760	7.35	32.4	195101	0.150	0.0181	0.40		13.0
5	Duct connection	500	x	500		500	4760	5.29	16.8	175591	3.000	0.0292		1	1.0
6	Duct straight	800	x	800		800	2380	1.03	0.6	54872	3.000	0.0276	1.00	3.5	0.7
7	Tee	700	x	250		368	2380	3.78	8.6	92416	3.000	0.0315	1.00		8.6
8	Duct straight	700	x	250		368	2380	3.78	8.6	92416	3.000	0.0315	0.20	1.5	2.8
9	Duct straight	550	x	250		344	1587	3.21	6.2	73163	3.000	0.0321	0.20	2.5	2.7
10	Duct straight	350	x	250		292	793	2.52	3.8	48775	3.000	0.0335	0.20	2.5	1.9
11	Tee	350	x	250		292	793	2.52	3.8	48775	3.000	0.0335	2.50		9.5
12	Neck	300	x	300		300	793	2.45	3.6	48775	3.000	0.0333		0.3	0.1
13	Diffuser	600	x	600		600	793	0.61	0.2	24388	3.000	0.0306	8.00		1.8
	Loss Total														496.0
	Pressurisation Safety margin 10%														0
															50
		Total													550