

## Recommended Primary Valve Airflow Ranges For All Fan Powered Terminal Units

The recommended airflow ranges below are for fan powered terminal units with pressure independent controls and are presented as ranges for total and controller specific minimum and maximum airflow. Airflow ranges are based upon maintaining reasonable sound levels and controller limits using Nailor's Diamond Flow Sensor as the airflow measuring device. For a given unit size, the minimum, auxiliary and the maximum flow setting must be within the range limits to ensure pressure independent operation, accuracy and repeatability.

Minimum airflow limits are based upon .02" w.g. (5 Pa) differential pressure signal from Diamond Flow Sensor on analog/digital controls and .03" (7.5) for pneumatic controllers. This is a realistic low limit for many transducers used in the digital controls industry. Check your controls supplier for minimum limits. Setting airflow minimums lower, may cause hunting and failure to meet minimum ventilation requirements.

The high end of the tabulated Total Airflow Range on pneumatic and analog electronic controls represents the Diamond Flow Sensor's differential pressure reading at 1" w.g. (249 Pa). The high end airflow range for digital controls is represented by the indicated transducer differential pressure.

ASHRAE 130 "Performance Rating of Air Terminals" is the method of test for the certification program. The "standard rating condition" (certification rating point) airflow volumes for each terminal unit size are tabulated below per AHRI Standard 880. These air volumes equate to an approximate inlet velocity of 2000 fpm (10.2 m/s).

When digital or other controls are mounted by Nailor, but supplied by others, these values are guidelines only, based upon experience with the majority of controls currently available. Controls supplied by others for factory mounting are configured and calibrated in the field. Airflow settings on pneumatic and analog controls supplied by Nailor are factory preset when provided.

### Imperial Units, Cubic Feet per Minute

Inlet Size	Inlet Type	Total Airflow Range, cfm	Airflow at 2000 fpm Inlet Velocity (nom.), cfm	Range of Minimum and Maximum Settings, cfm							
				Pneumatic 3000 Controller		Analog Electronic Controls		Digital Controls			
						Transducer Differential Pressure ( w.g.)					
				Min.	Max.	Min.	Max.	Min.	Max.	Max.	
.03	1.0	.02	1.0	.02	1.0	1.25	≥ 1.5				
4	Round	0 – 225	150	30	180	25	180	25	180	200	225
5		0 – 400	250	55	325	45	325	45	325	360	400
6		0 – 550	400	80	450	65	450	65	450	500	550
7		0 – 800	550	115	650	95	650	95	650	725	800
8		0 – 1100	700	155	900	125	900	125	900	1000	1100
10		0 – 1840	1100	260	1500	215	1500	215	1500	1675	1840
12		0 – 2500	1600	355	2050	290	2050	290	2050	2290	2500
14		0 – 3370	2100	475	2750	390	2750	390	2750	3075	3370
16		0 – 4510	2800	640	3700	520	3700	520	3700	4120	4510
12		Flat Oval	0 – 2500	1600	355	2050	290	2050	290	2050	2300
14	0 – 3125		2100	440	2550	360	2550	360	2550	2850	3125
16	0 – 3725		2800	525	3040	430	3040	430	3040	3400	3725
18	0 – 5265		3500	750	4300	610	4300	610	4300	4800	5265
14 x 8	Rect.	0 – 2450	1560	350	2000	290	2000	290	2000	2240	2450
14 x 10		0 – 2950	1900	420	2400	340	2400	340	2400	2700	2950

### Metric Units, Liters per Second

Inlet Size	Inlet Type	Total Airflow Range, l/s	Airflow at 10.2 m/s Inlet Velocity (nom.), l/s	Range of Minimum and Maximum Settings, l/s							
				Pneumatic 3000 Controller		Analog Electronic Controls		Digital Controls			
						Transducer Differential Pressure ( Pa )					
				Min.	Max.	Min.	Max.	Min.	Max.		
7.5	249	5	249	5	249	311	≥ 374				
4	Round	0 – 106	71	14	85	12	85	12	85	94	106
5		0 – 189	118	26	153	21	153	21	153	170	189
6		0 – 260	189	38	212	31	212	31	212	236	260
7		0 – 378	260	54	307	45	307	45	307	342	378
8		0 – 519	330	73	425	59	425	59	425	472	519
10		0 – 868	519	123	708	101	708	101	708	790	868
12		0 – 1180	755	168	967	137	967	137	967	1081	1080
14		0 – 1590	991	224	1298	184	1298	184	1298	1451	1590
16		0 – 2128	1321	302	1746	245	1746	245	1746	1944	2128
12		Flat Oval	0 – 1180	755	168	967	137	967	137	967	1085
14	0 – 1475		991	208	1203	170	1203	170	1203	1345	1475
16	0 – 1758		1321	248	1435	203	1435	203	1435	1604	1758
18	0 – 2485		1652	354	2029	288	2029	288	2029	2265	2485
14 x 8	Rect.	0 – 1156	736	165	944	137	944	137	944	1057	1156
14 x 10		0 – 1392	897	198	1133	160	1133	160	1133	1274	1392