

Recommended Airflow Ranges For Model 3230 Dual Duct Pressure Independent Terminal Units

The recommended airflow ranges below are for dual duct 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 minimum (where applicable) 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. Where an auxiliary setting is specified, the value must be greater than the minimum setting.

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. (250 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

Unit 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.		
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
9		0 – 1400	900	200	1150	165	1150	165	1150	1285	1400
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	2740	390	2740	390	2740	3075	3370
16		0 – 4510	2800	640	3680	520	3680	520	3680	4120	4510

Metric Units, Liters per Second

Unit 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.		
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
9		0 – 661	425	94	543	78	543	78	543	606	661
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