

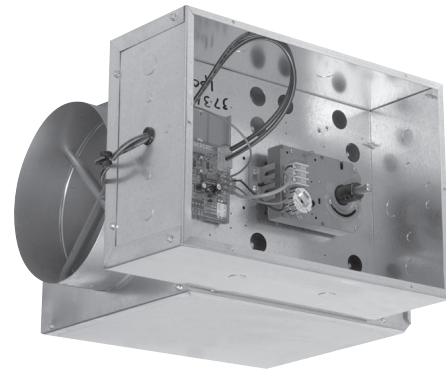
RECOMMENDED PRIMARY AIR CFM RANGES / ALL TERMINALS

Control Types:

- PESV / Pneumatic
- AESV / Analog Electronic
- DESV / Digital Electronic

QUICK SELECTION PROCEDURE

1. Select unit inlet size based upon acoustic parameters and/or maximum pressure drop requirements, using pages M15-M16
2. Check inlet size selection against cfm control limits based on control type shown on this page
3. Select accessories (multi-outlets, attenuators) as required
4. Select reheat coil, if required. Make your selection using the actual heating flow rate, not cooling.



Inlet Size	Total cfm Range	cfm Ranges of Minimum and Maximum Settings							
		PESV - Pneumatic Titus II Controller		PESV - Pneumatic Titus I Controller		AESV - Analog Electronic TA1 Controller		DESV - Digital Typical Controller	
		Minimum	Maximum	Minimum	Maximum	MINIMUM	MAXIMUM	MINIMUM	MAXIMUM
4	0-225	50-210	90-225	65-210	90-225	50-225	50-225	30-225	30-225
5	0-350	70-300	125-350	90-300	125-350	70-350	70-350	40-350	40-350
6	0-500	80-345	145-500	100-345	145-500	80-500	80-500	45-500	45-500
7	0-650	120-515	210-650	150-515	210-650	120-650	120-650	70-650	70-650
8	0-900	160-700	285-900	205-700	285-900	160-900	160-900	90-900	90-900
9	0-1050	205-900	370-1050	260-900	370-1050	205-1050	205-1050	120-1050	120-1050
10	0-1400	250-1110	455-1400	325-1110	455-1400	250-1400	250-1400	145-1400	145-1400
12	0-2000	330-1460	600-2000	425-1460	600-2000	330-2000	330-2000	190-2000	190-2000
14	0-3000	525-2335	955-3000	675-2335	955-3000	525-3000	525-3000	300-3000	300-3000
16	0-4000	665-2970	1215-4000	860-2970	1215-4000	665-4000	665-4000	385-4000	385-4000
24 X 16	0-8000	1245-5555	2270-8000	1605-5555	2270-8000	1245-8000	1245-8000	720-8000	720-8000

Note: On controls mounted by Titus but supplied by others (FMA or Factory Mounting Authorization), these values are guidelines only. Controls mounted on an FMA basis are calibrated in the field.

PESV, AESV, DESV / RADIATED SOUND PERFORMANCE

Size	CFM	Min ΔPs	Octave Band Sound Power, Lw																											
			0.5" ΔPs							1.0" ΔPs							1.5" ΔPs							2.0" ΔPs						
			2	3	4	5	6	7	NC	2	3	4	5	6	7	NC	2	3	4	5	6	7	NC	2	3	4	5	6	7	NC
4	100	0.02	49	45	36	33	31	26	11	52	48	39	36	35	31	15	53	50	41	37	37	34	17	55	51	43	38	39	36	18
	125	0.03	52	49	39	36	32	27	16	55	52	42	38	36	32	20	57	54	44	40	39	36	22	58	55	45	41	40	38	23
	150	0.04	55	52	41	37	34	28	20	58	55	44	40	38	34	23	60	57	46	41	40	37	25	61	58	47	42	42	39	27
	175	0.06	58	55	42	39	35	29	23	61	58	46	42	39	34	27	63	59	48	43	41	38	28	64	61	49	44	43	40	30
	200	0.08	60	57	44	40	36	30	25	63	60	47	43	40	35	29	65	62	49	44	42	38	31	66	63	51	45	44	41	33
5	150	0.01	49	44	36	32	31	25	10	53	49	41	36	35	30	16	55	51	43	38	37	33	18	57	53	45	39	39	35	21
	200	0.02	53	48	39	35	34	27	15	56	53	44	38	37	32	21	59	55	46	40	40	35	23	60	57	48	42	41	37	25
	250	0.03	55	52	41	37	35	29	20	59	56	46	40	39	34	24	62	59	49	42	41	37	28	63	61	51	44	43	39	30
	300	0.04	58	54	43	39	37	30	22	62	59	48	42	41	35	28	64	61	50	44	43	38	30	65	63	52	45	44	40	33
	350	0.06	60	56	45	40	38	31	24	63	61	49	43	42	36	30	66	63	52	45	44	39	33	67	65	54	47	45	41	35
6	300	0.07	55	49	40	35	32	28	16	59	54	45	39	37	33	22	61	57	48	41	39	36	25	63	59	50	42	41	38	28
	350	0.10	57	52	42	37	34	29	20	60	57	47	41	38	34	25	62	59	50	43	40	37	28	64	62	52	44	42	39	31
	400	0.13	58	53	44	39	35	30	21	61	58	49	42	39	35	27	63	61	52	44	42	38	30	65	63	54	46	43	40	33
	450	0.16	59	55	45	40	36	31	23	62	60	50	44	40	36	29	64	63	53	46	43	39	33	66	65	55	47	45	41	35
	500	0.20	59	56	47	42	37	32	24	63	61	51	45	41	37	30	65	64	54	47	44	40	34	67	67	56	49	46	42	37
7	450	0.07	59	48	42	38	33	24	20	61	54	48	42	38	30	23	62	57	51	45	41	33	25	63	59	53	46	43	35	28
	500	0.09	60	50	43	39	34	24	22	62	55	49	43	39	30	24	63	58	52	46	42	34	27	64	60	54	48	44	36	29
	550	0.10	60	51	44	40	35	25	22	63	57	50	45	40	31	25	64	59	53	47	43	34	28	66	62	55	49	45	37	31
	600	0.12	61	53	45	42	35	25	23	63	58	51	46	41	31	27	65	61	54	48	44	35	30	66	63	56	50	46	37	33
	650	0.15	62	54	46	43	36	26	24	64	59	52	47	41	32	28	65	62	55	49	44	35	31	66	64	57	51	46	38	34
8	600	0.02	59	50	44	40	38	32	20	62	55	49	43	43	39	24	64	58	52	46	45	44	27	65	60	54	47	47	47	29
	650	0.02	60	51	44	41	39	32	22	63	56	50	44	44	40	25	65	59	53	47	46	45	28	66	61	55	48	48	48	30
	700	0.02	60	52	45	42	40	33	22	63	57	50	45	44	41	25	65	60	53	47	47	45	29	67	62	56	49	49	48	31
	750	0.02	61	53	46	43	40	34	23	64	58	51	46	45	41	27	66	61	54	48	48	46	30	67	63	56	50	50	49	33
	800	0.03	62	54	47	43	41	34	24	65	59	52	47	46	42	28	66	62	55	49	48	47	31	68	64	57	51	50	50	34
9	800	0.04	58	47	43	36	34	30	19	61	53	49	42	40	35	23	62	57	52	46	44	38	26	63	59	55	48	47	40	29
	850	0.04	58	48	43	37	34	31	19	61	54	49	43	41	35	23	63	58	53	46	45	38	27	64	60	55	49	47	40	29
	900	0.05	59	49	44	37	35	31	20	62	55	50	43	41	35	24	64	58	53	47	45	38	27	65	61	56	49	48	40	30
	950	0.06	59	50	44	37	35	31	20	62	56	50	43	42	36	24	64	59	54	47	45	38	28	65	62	56	49	48	40	31
	1000	0.06	60	50	44	38	36	31	22	63	56	50	44	42	36	25	65	60	54	47	46	39	29	66	62	57	50	48	40	31
10	900	0.01	60	50	47	45	42	29	22	63	57	53	50	48	37	27	65	60	57	53	52	41	31	67	63	59	56	54	44	34
	1000	0.01	60	51	48	46	43	30	22	64	58	54	51	49	38	28	66	61	57	54	53	42	31	67	64	59	56	55	45	34
	1100	0.01	61	52	48	47	44	32	23	65	58	54	52	50	39	28	67	62	57	55	54	43	31	68	64	60	57	56	46	35
	1200	0.01	62	53	48	47	45	32	24	65	59	54	53	51	40	28	67	63	58	56	55	44	33	69	65	60	58	57	47	35
	1300	0.01	63	54	49	48	45	33	25	66	60	55	53	52	41	29	68	63	58	56	55	45	33	69	66	61	58	58	48	36
12	1200	0.01	58	50	47	41	37	30	20	62	56	52	47	43	37	26	64	59	56	50	46	41	30	66	61	58	53	49	43	32
	1400	0.01	60	52	48	42	38	32	22	63	57	54	48	45	39	28	65	60	57	52	48	42	31	67	63	60	54	51	45	35
	1600	0.01	61	53	50	43	40	34	24	64	59	55	49	46	40	29	66	62	59	53	50	44	34	68	64	61	55	52	47	36
	1800	0.01	61	55	51	44	41	35	25	65	60	56	50	48	41	30	67	63	60	54	51	45	35	69	65	62	56	54	48	37
	2000	0.01	62	56	52	45	43	36	26	66	61	57	51	49	43	31	68	64	61	55	52	47	36	69	67	63	57	55	49	38
14	1500	0.02	56	51	45	43	40	36	18	60	56	50	48	45	41	24	62	59	53	51	48	45	28	64	61	55	53	50	47	30
	1800	0.03	58	53	46	44	41	36	21	62	58	51	49	46	42	27	64	60	54	52	49	45	29	66	63	56	54	51	48	33
	2100	0.04	59	54	47	45	42	37	22	63	59	52	50	47	43	28	66	62	55	53	50	46	31	67	64	58	55	52	49	34
	2400	0.05	60	55	48	46	43	38	23	64	60	53	51	48	43	29	67	63	56	54	51	47	33	69	65	58	56	53	49	35
	2700	0.06	62	56	49	47	44	38	24	66	61	54	52	49	44	30	68	64	57	55	52	47	34	70	66	59	57	54	50	36
16	2000	0.02	55	48	43	41	39	31	36	59	53	47	45	44	38	21	61	56	50	47	47	41	24	63	58	52	49	49	44	27
	2400	0.02	57	51	45	43	41	33	18	61	56	49	47	46	39	24	64	59	52	49	49	43	28	65	61	54	51	51	46	30
	2800	0.03	59	53	46	44	42	34	21	63	58	51	48	47	41	27	66	61	54	50	50	45	30	67	63	55	52	52	48	33
	3200	0.04	61	55	48	46	44	36	23	65	60	52	50	49	42	29	67	62	55	52	52	46	31	69	64	57	53	54	49	34
	3600	0.05	62	56	49	47	45	37	24	66	61	54	51	50	44	30	69	64	56	53	53	48	34	71	66	58	55	55	50	36

PESV, AESV, DESV / DISCHARGE SOUND PERFORMANCE

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Size	CFM	Min ΔPs	Octave Band Sound Power, Lw																											
			0.5" ΔPs							1.0" ΔPs							1.5" ΔPs							2.0" ΔPs						
			2	3	4	5	6	7	NC	2	3	4	5	6	7	NC	2	3	4	5	6	7	NC	2	3	4	5	6	7	NC
4	100	0.02	70	56	47	42	40	33	28	71	59	51	46	47	41	29	72	61	54	49	50	46	30	73	62	56	51	53	49	31
	125	0.03	72	60	50	44	42	35	30	73	63	54	49	49	43	31	74	64	57	52	52	47	33	75	65	59	54	55	51	34
	150	0.04	73	63	52	47	44	36	31	75	65	57	51	50	44	34	76	67	60	54	54	49	35	76	68	61	56	57	52	35
	175	0.06	75	65	54	48	45	37	34	76	68	59	53	51	45	35	77	69	62	56	55	50	36	78	71	64	58	58	53	38
	200	0.08	76	67	56	50	46	38	35	77	70	61	55	53	46	36	78	72	63	58	56	51	38	79	73	65	60	59	54	39
5	150	0.01	68	53	47	43	41	34	25	70	58	52	47	47	42	28	72	60	55	50	51	46	30	73	62	58	52	53	49	31
	200	0.02	71	57	50	46	43	36	29	73	61	56	51	49	44	31	75	64	59	53	53	48	34	76	66	61	55	55	51	35
	250	0.03	73	60	53	49	45	38	31	75	65	58	53	51	45	34	77	67	61	56	55	50	36	78	69	63	58	57	53	38
	300	0.04	74	62	55	51	47	39	29	77	67	60	55	53	46	33	78	70	63	58	56	51	34	79	72	66	60	59	54	35
	350	0.06	76	64	57	52	48	40	31	78	69	62	57	54	47	34	80	72	65	60	57	52	36	81	74	67	61	60	55	38
6	300	0.07	68	60	54	50	45	39	21	72	65	59	54	51	46	26	75	68	62	57	54	50	30	77	70	64	58	56	53	33
	350	0.10	69	62	55	52	47	40	22	74	67	61	56	52	47	29	76	70	64	59	55	51	31	78	72	66	60	58	54	34
	400	0.13	71	63	57	54	48	41	25	75	69	62	58	53	48	30	78	72	65	60	57	52	34	79	74	67	62	59	55	35
	450	0.16	72	65	58	55	49	42	26	76	70	64	59	54	49	31	79	73	67	62	58	53	35	81	76	69	63	60	56	38
	500	0.20	73	66	60	56	50	43	28	77	72	65	61	55	50	33	80	75	68	63	59	54	36	82	77	70	65	61	57	39
7	450	0.07	71	61	54	51	47	40	25	74	66	59	54	51	46	29	75	70	61	56	54	49	30	77	72	63	58	56	52	33
	500	0.09	71	62	55	52	48	40	25	74	68	60	56	52	47	29	76	71	63	58	55	50	31	77	74	64	59	57	53	34
	550	0.10	72	64	56	54	49	41	26	75	69	61	57	53	48	30	76	73	64	59	56	51	33	78	75	65	60	58	54	36
	600	0.12	72	65	57	55	49	42	26	75	70	62	58	54	48	30	77	74	64	60	57	52	34	78	76	66	61	59	55	37
	650	0.15	72	66	58	56	50	43	26	75	72	63	59	55	49	32	77	75	65	61	58	53	36	79	77	67	62	59	55	38
8	600	0.02	73	63	56	52	48	40	28	76	69	60	55	52	47	31	78	72	62	56	55	51	34	79	75	64	57	57	54	36
	650	0.02	74	64	57	53	48	41	29	77	70	61	56	53	47	33	78	73	63	57	55	51	34	79	76	65	58	57	54	37
	700	0.02	74	65	57	54	49	41	29	77	71	61	56	53	48	33	79	74	64	58	56	52	35	80	77	65	59	58	55	38
	750	0.02	75	66	58	54	49	42	28	77	72	62	57	54	48	31	79	75	64	58	56	52	34	80	78	66	60	58	55	38
	800	0.03	75	67	58	55	50	42	28	78	73	63	58	54	49	32	79	76	65	59	57	53	36	81	78	67	60	59	56	38
9	800	0.04	73	61	57	53	49	43	25	76	66	61	57	54	49	29	77	69	63	59	57	53	30	78	71	65	60	59	56	31
	850	0.04	74	62	57	53	49	43	26	76	67	61	57	54	50	29	78	70	63	59	57	54	31	79	72	65	61	59	56	33
	900	0.05	74	63	58	54	50	43	26	77	68	62	57	55	50	30	79	70	64	59	57	54	33	80	72	66	61	59	57	34
	950	0.06	75	63	58	54	50	44	28	78	68	62	58	55	50	31	79	71	64	60	58	54	33	80	73	66	61	60	57	34
	1000	0.06	75	64	59	55	50	44	28	78	69	62	58	55	50	31	80	72	65	60	58	54	34	81	74	66	62	60	57	35
10	900	0.01	75	62	58	55	50	44	28	77	67	62	59	55	50	30	78	70	65	61	58	54	31	79	73	67	63	61	57	33
	1000	0.01	76	63	59	56	50	44	29	78	68	63	60	56	51	31	79	71	66	62	59	55	33	80	74	68	64	61	57	34
	1100	0.01	76	63	59	57	51	45	29	79	69	64	61	56	51	33	80	72	66	63	60	55	34	81	74	68	65	62	58	35
	1200	0.01	77	64	60	57	52	45	30	79	70	64	61	57	52	33	81	73	67	64	60	56	35	82	75	69	66	63	59	36
	1300	0.01	78	65	61	58	52	46	31	80	70	65	62	58	53	34	81	74	68	65	61	56	35	82	76	69	66	63	59	36
12	1200	0.01	73	64	60	55	53	46	25	76	69	64	59	57	52	29	78	72	66	62	60	56	31	79	74	68	64	62	59	33
	1400	0.01	74	65	62	56	54	47	26	77	71	66	61	59	53	30	79	74	68	63	61	57	33	80	76	70	65	63	60	36
	1600	0.01	75	66	63	57	55	48	28	78	72	67	62	59	55	31	80	75	69	64	62	58	34	81	77	71	66	64	61	37
	1800	0.01	76	68	64	58	55	49	29	79	73	68	63	60	56	33	80	76	71	65	63	59	36	81	78	72	67	65	62	38
	2000	0.01	76	69	65	59	56	50	29	79	74	69	64	61	56	33	81	77	72	66	64	60	37	82	79	73	68	66	63	39
14	1500	0.02	69	57	56	53	50	44	20	72	63	56	59	57	53	24	74	67	56	62	62	59	26	76	69	56	65	65	62	29
	1800	0.03	70	59	58	53	50	44	21	73	65	58	59	58	53	25	75	68	58	63	62	59	28	77	71	58	65	65	63	30
	2100	0.04	71	60	59	54	51	44	22	74	66	59	60	58	54	26	76	69	59	63	63	59	29	78	72	59	66	66	63	31
	2400	0.05	72	61	60	54	51	44	24	75	67	60	60	59	54	28	77	70	60	64	63	59	30	78	73	60	66	66	63	32
	2700	0.06	72	62	61	54	51	45	24	76	68	61	61	59	54	29	78	71	61	64	63	60	31	79	74	61	67	66	63	33
16	2000	0.02	68	59	57	54	52	45	19	71	63	57	58	56	51	22	73	66	57	61	59	54	25	74	68	57	63	61	57	26
	2400	0.02	70	62	59	55	53	46	21	73	66	59	60	58	52	25	75	68	59	62	61	56	28	76	70	59	64	62	58	29
	2800	0.03	71	64	61	57	55	48	22	75	68	61	61	59	54	28	77	70	61	64	62	57	30	78	72	61	66	64	60	31
	3200	0.04	73	65	63	58	56	49	25	76	69	63	62	60	55	29	78	72	63	65	63	59	31	79	73	63	67	65	61	33
	3600	0.05	74	67	65	59	57	50	26	77	71	65	63	61	56	30	79	73	65	66	64	60	33	81	75	65	68	66	62	35
40	3900	0.03	76	70	66	62	61	56	29	81	75	66	67	67	62	35	84	78	66	69	70	66	39	86	80	66	71	72	68	42
	4600	0.04	77	71	67	63	63	58	30	82	77	67	68	68	64	37	85	80	67	71	71	67	40	88	82	67	73	74	70	44
	5300	0.06	79	73	69	65	64	60	33	84	78	69	69	70	65	39	87	81	69	72	73	69	43	89	83	69	74	75	71	45
	6000	0.07	80	74	70	66	65	61	34	85																				

PESV, AESV, DESV / HOT WATER COIL CAPACITY, MBH / 1- AND 2-ROW

	Rows	gpm	Head Loss	Airflow, cfm								
				50	100	150	200	250	300	350	400	450
Sizes 4-5-6	One-Row	1.0	0.48	3.7	5.6	6.8	7.8	8.6	9.3	9.9	10.4	10.8
		2.0	1.82	3.8	5.9	7.3	8.5	9.5	10.3	11.0	11.6	12.2
		4.0	6.98	3.9	6.1	7.6	8.9	10.0	10.9	11.7	12.4	13.1
		5.0	10.75	3.9	6.1	7.7	9.0	10.1	11.0	11.8	12.6	13.3
		Airside ΔPs		0.01	0.01	0.02	0.04	0.05	0.07	0.10	0.12	0.15
	Two-Row	1.0	0.12	5.0	8.1	10.3	12.0	13.4	14.5	15.5	16.3	17.0
		3.0	1.04	5.4	9.0	11.9	14.2	16.2	17.9	19.4	20.7	22.0
		5.0	2.80	5.4	9.2	12.2	14.7	16.9	18.8	20.5	22.0	23.4
		7.0	5.38	5.5	9.3	12.4	15.0	17.3	19.2	21.0	22.6	24.1
		Airside ΔPs		0.01	0.03	0.05	0.08	0.12	0.16	0.21	0.26	0.32
Sizes 7-8	One-Row	1.0	0.64	6.2	8.9	10.7	12.1	13.1	14.0	14.7	15.3	15.9
		2.0	2.46	6.6	9.7	11.8	13.5	14.8	16.0	16.9	17.8	18.5
		3.0	5.38	6.7	10.0	12.3	14.1	15.5	16.8	17.9	18.8	19.7
		4.0	9.39	6.8	10.1	12.5	14.4	15.9	17.2	18.4	19.4	20.3
		Airside ΔPs		0.01	0.02	0.05	0.07	0.11	0.15	0.19	0.24	0.30
	Two-Row	1.0	0.17	8.8	13.4	16.3	18.5	20.2	21.5	22.6	23.6	24.4
		3.0	1.40	9.7	15.6	20.0	23.4	26.3	28.6	30.7	32.5	34.1
		5.0	3.77	9.9	16.2	21.0	24.8	28.0	30.8	33.2	35.3	37.2
		7.0	7.24	10.0	16.5	21.4	25.5	28.8	31.8	34.4	36.7	38.8
		Airside ΔPs		0.02	0.05	0.10	0.16	0.23	0.32	0.41	0.51	0.62
Sizes 9-10	One-Row	2.0	0.41	11.0	13.5	15.4	17.0	18.3	19.5	20.5	21.3	22.1
		3.0	0.90	11.4	14.1	16.3	18.1	19.6	20.9	22.0	23.0	23.9
		5.0	2.41	11.8	14.7	17.1	19.0	20.7	22.2	23.5	24.6	25.7
		6.0	3.43	11.9	14.9	17.3	19.3	21.0	22.5	23.9	25.1	26.2
		Airside ΔPs		0.01	0.02	0.04	0.06	0.08	0.10	0.13	0.15	0.19
	Two-Row	2.0	0.47	16.4	21.0	24.5	27.4	29.8	31.8	33.6	35.1	36.5
		4.0	1.84	17.6	23.0	27.3	31.0	34.2	36.9	39.4	41.5	43.5
		6.0	4.08	18.0	23.8	28.5	32.5	36.0	39.1	41.8	44.3	46.6
		8.0	5.00	18.3	24.2	29.1	33.3	37.0	40.3	43.2	45.9	48.3
		Airside ΔPs		0.03	0.05	0.09	0.12	0.17	0.22	0.27	0.33	0.40
Size 12	One-Row	2.0	0.54	15.5	19.8	22.9	25.2	27.1	28.7	30.1	31.2	32.3
		3.0	1.19	16.2	21.0	24.5	27.2	29.5	31.4	33.0	34.5	35.7
		5.0	3.18	16.9	22.1	26.0	29.1	31.7	34.0	35.9	37.6	39.2
		6.0	4.52	17.0	22.4	26.5	29.7	32.4	34.7	36.7	38.5	40.1
		Airside ΔPs		0.01	0.03	0.06	0.09	0.13	0.17	0.22	0.27	0.33
	Two-Row	2.0	0.55	23.2	30.8	36.2	40.2	43.5	46.1	48.3	50.2	51.9
		4.0	2.15	25.3	34.8	41.9	47.6	52.3	56.3	59.7	62.7	65.4
		6.0	4.75	26.1	36.4	44.3	50.7	56.1	60.8	64.8	68.4	71.6
		8.0	6.16	26.5	37.2	45.6	52.5	58.3	63.3	67.8	71.7	75.3
		Airside ΔPs		0.03	0.07	0.13	0.20	0.27	0.36	0.46	0.57	0.68

PESV, AESV, DESV / HOT WATER COIL CAPACITY, MBH / 1- AND 2-ROW

Size	Rows	gpm	Head Loss	Airflow, cfm								
				400	700	1000	1300	1600	1900	2200	2500	2800
Size 14	One-Row	2.0	0.43	20.4	26.3	30.3	33.2	35.5	27.4	39.0	40.4	41.5
		3.0	0.96	21.6	28.4	33.2	36.8	39.7	42.0	44.1	45.9	47.4
		5.0	2.63	22.7	30.5	36.0	40.3	43.8	47.8	49.3	51.6	53.6
		6.0	3.77	23.1	31.0	36.8	41.3	45.0	48.2	50.9	53.3	55.4
		Airside ΔPs		0.01	0.03	0.06	0.09	0.13	0.17	0.22	0.27	0.33
	Two-Row	2.0	0.39	30.1	40.3	47.0	51.8	55.5	58.5	60.9	62.9	64.7
		4.0	1.51	33.5	47.1	56.8	64.3	70.3	75.3	79.6	83.2	86.4
		6.0	3.36	34.9	49.9	61.1	69.9	77.2	83.3	88.6	93.2	97.3
		8.0	3.95	35.6	51.5	63.5	73.1	81.1	88.0	93.9	99.2	103.8
		Airside ΔPs		0.03	0.07	0.12	0.19	0.27	0.36	0.46	0.57	0.69
Size 16	One-Row	3.0	1.07	29.5	37.4	42.8	47.0	50.4	53.1	55.5	57.5	59.3
		5.0	2.92	31.4	40.6	47.2	52.3	56.5	60.1	63.1	65.8	68.2
		7.0	5.65	32.4	42.1	49.3	55.0	59.7	63.7	67.1	70.2	72.9
		9.0	6.48	32.9	43.1	50.6	56.6	61.6	65.9	69.6	72.9	75.9
		Airside ΔPs		0.02	0.04	0.07	0.10	0.14	0.19	0.24	0.30	0.36
	Two-Row	3.0	0.53	43.1	55.9	64.7	71.1	76.1	80.1	83.4	86.2	88.6
		5.0	1.46	47.0	63.1	74.6	83.5	90.7	96.6	101.6	105.9	109.7
		7.0	2.84	49.0	66.8	80.0	90.3	98.8	106.0	112.1	117.5	122.2
		9.0	2.54	50.2	69.0	83.3	94.6	104.1	112.1	119.0	125.1	130.5
		Airside ΔPs		0.04	0.08	0.14	0.22	0.30	0.40	0.51	0.63	0.76
Size 24 x 16	One-Row	3.0	1.31	35.3	49.4	58.3	64.7	69.6	73.5	76.8	79.6	82.0
		5.0	3.57	37.6	54.2	65.2	73.4	79.9	85.3	89.9	93.8	97.3
		7.0	6.89	38.7	56.5	68.7	77.9	85.4	91.6	96.9	101.5	105.6
		9.0	8.50	39.3	58.0	70.8	80.7	88.7	95.5	101.3	106.4	110.9
		Airside ΔPs		0.01	0.02	0.05	0.08	0.11	0.15	0.20	0.25	0.30
	Two-Row	3.0	0.59	48.8	70.9	84.3	93.4	100.1	105.3	109.4	112.8	115.7
		5.0	1.63	53.1	81.0	99.4	112.9	123.3	131.6	138.5	144.3	149.3
		7.0	3.17	55.2	86.2	107.6	123.8	136.6	147.1	155.9	163.5	170.0
		9.0	3.06	56.4	89.4	112.8	130.8	145.3	157.3	167.5	176.4	184.2
		Airside ΔPs		0.02	0.05	0.10	0.16	0.24	0.32	0.42	0.52	0.63

- All coil performance in accordance with AHRI 410-2001
- Heating capacities are in MBH
- Data based on 180°F entering water and 55°F entering air
- For temperature differentials other than 125°, multiply MBH by correction factors below
- Head loss is in feet of water
- Always supply water to lowest connection pipe to prevent air entrapment
- Air temperature rise = 927 x MBH/cfm
- Water temperature drop = 2.04 x MBH/gpm
- Connection size is 1/2" OD male solder for 1-row coil sizes 04-08. All other coils have 7/8" OD male solder.
- Coils are not intended for steam applications and are labeled for a maximum water temperature of 200°F
- Coils are tested for leakage at test pressure of 500 psi
- Water volumes less than those shown may result in laminar flow and reduced heating capacity. If possible reduce the number of coil rows to increase water velocity into turbulent range.

Correction Factors for Other Entering Conditions

ΔT	50	60	70	80	90	100	110	125	140	150
Factor	0.40	0.48	0.56	0.64	0.72	0.80	0.88	1.00	1.12	1.20

Note: Airside ΔPs reflects the air pressure drop of the hot water coil

PESV, AESV, DESV / HOT WATER COIL CAPACITY, MBH / 3- AND 4-ROW

Rows	gpm	Head Loss	Airflow, cfm									
			50	100	150	200	250	300	350	400	450	
Three-Row	2.0	0.70	6.1	10.8	14.4	17.5	20.0	22.3	24.2	25.9	27.4	
	3.0	1.54	6.1	11.0	14.9	18.2	21.0	23.5	25.7	27.6	29.4	
	5.0	4.14	6.2	11.1	15.2	18.8	21.8	24.6	27.0	29.2	31.3	
	6.0	5.90	6.2	11.2	15.3	18.9	22.1	24.9	27.4	29.7	31.8	
	Airside ΔPs		0.01	0.04	0.08	0.12	0.18	0.24	0.31	0.39	0.47	
Four-Row	3.0	1.11	6.5	11.9	16.5	20.5	23.9	26.8	29.5	34.8	34.0	
	4.0	1.95	6.5	12.1	16.8	20.9	24.5	27.7	30.6	33.1	35.5	
	6.0	4.33	6.5	12.2	17.1	21.4	25.2	25.6	31.7	34.5	37.1	
	8.0	5.42	6.5	12.2	17.2	21.6	25.5	29.1	32.3	35.3	38.0	
	Airside ΔPs		0.02	0.05	0.10	0.16	0.24	0.32	0.41	0.52	0.63	

Rows	gpm	Head Loss	Airflow, cfm								
			100	200	300	400	500	600	700	800	900
Three-Row	2.0	0.50	11.2	18.6	23.8	27.9	31.1	33.7	35.9	37.8	39.4
	4.0	1.95	11.6	19.8	26.0	31.1	35.3	38.8	41.9	44.7	47.1
	6.0	4.33	11.7	20.2	26.9	32.3	37.0	41.0	44.5	47.6	50.4
	8.0	5.42	11.7	20.4	27.3	33.0	37.9	42.1	45.9	49.2	52.2
	Airside ΔPs		0.02	0.08	0.15	0.24	0.35	0.47	0.61	0.77	0.93
Four-Row	4.0	1.40	12.4	22.1	29.6	358.0	40.9	45.3	49.1	52.4	55.3
	6.0	3.12	12.5	22.5	30.6	37.3	43.0	48.0	52.4	56.3	59.7
	8.0	3.53	12.6	22.7	31.1	38.1	44.2	49.5	54.2	58.4	62.2
	10.0	5.46	12.6	22.9	31.4	38.6	44.9	50.4	55.4	59.8	63.8
	Airside ΔPs		0.03	0.10	0.20	0.32	0.47	0.63	0.82	1.02	1.25

Rows	gpm	Head Loss	Airflow, cfm								
			200	300	400	500	600	700	800	900	1000
Three-Row	3.0	0.80	21.0	27.9	33.4	38.0	41.8	45.2	48.1	50.7	52.9
	5.0	2.19	21.6	29.2	35.5	40.8	45.5	49.6	53.2	56.5	59.4
	7.0	4.26	21.9	29.8	36.5	42.2	47.2	51.7	55.7	59.4	62.7
	9.0	4.49	22.1	30.2	37.0	43.0	48.3	53.0	57.3	61.2	64.7
	Airside ΔPs		0.04	0.08	0.13	0.19	0.25	0.33	0.41	0.50	0.59
Four-Row	4.0	1.16	23.5	32.2	39.4	45.6	50.9	55.5	59.6	63.2	66.5
	5.0	1.80	23.7	32.7	40.4	46.9	52.6	57.7	62.2	66.2	69.8
	8.0	2.75	24.1	33.6	41.8	49.0	55.4	61.2	66.4	71.1	75.5
	10.0	4.25	24.2	33.9	42.3	49.8	56.4	62.4	67.9	72.9	77.5
	Airside ΔPs		0.05	0.11	0.17	0.25	0.34	0.43	0.54	0.66	0.79

Rows	gpm	Head Loss	Airflow, cfm								
			300	500	700	900	1100	1300	1500	1700	1900
Three-Row	3.0	0.91	30.3	42.2	50.9	57.6	63.0	67.4	71.1	74.3	77.0
	4.0	1.61	31.0	44.0	53.8	61.5	67.8	73.1	77.6	81.5	84.9
	6.0	3.57	31.8	45.9	56.9	65.8	73.3	79.7	85.2	90.1	94.5
	8.0	4.32	32.2	46.9	58.5	68.2	76.3	83.4	89.6	95.1	100.0
	Airside ΔPs		0.05	0.11	0.19	0.29	0.41	0.54	0.69	0.85	1.02
Four-Row	4.5	1.63	34.6	50.5	62.9	72.7	80.8	87.6	93.4	98.4	102.8
	5.0	2.01	34.8	51.1	63.9	74.2	82.7	89.9	96.0	101.4	106.1
	7.0	2.88	35.1	52.6	66.5	78.0	87.7	96.1	103.4	109.8	115.6
	9.0	4.11	35.6	53.4	68.0	80.3	90.8	99.9	107.9	115.1	121.5
	Airside ΔPs		0.06	0.15	0.26	0.39	0.55	0.72	0.92	1.13	1.36

PESV, AESV, DESV / HOT WATER COIL CAPACITY, MBH / 3- AND 4-ROW

Size	Rows	gpm	Head Loss	Airflow, cfm								
				400	700	1000	1300	1600	1900	2200	2500	2800
Size 14	Three-Row	4.0	1.30	41.3	59.8	73.0	83.0	90.9	97.3	102.7	107.3	111.1
		5.0	2.01	42.1	61.8	76.3	87.6	96.6	104.1	110.4	115.8	120.5
		6.0	2.88	42.6	63.2	78.6	90.8	100.7	109.0	116.1	122.2	127.6
		8.0	3.27	43.3	65.0	81.7	95.2	106.3	115.8	124.0	131.2	137.5
		Airside ΔPs		0.04	0.10	0.19	0.29	0.41	0.54	0.69	0.86	1.04
	Four-Row	6.0	2.06	46.7	71.1	89.5	104.0	115.7	125.5	133.7	140.8	146.9
		7.0	2.79	47.1	72.2	91.6	107.1	119.8	130.4	139.5	147.4	154.2
		8.0	2.03	47.4	73.1	93.3	109.5	123.0	134.4	144.1	152.7	160.2
		10.0	3.15	47.8	74.4	95.6	113.0	127.7	140.2	151.1	160.7	169.2
		Airside ΔPs		0.05	0.14	0.25	0.38	0.54	0.72	0.93	1.15	1.39
Size 16	Three-Row	6.0	1.71	58.5	80.9	97.0	109.3	119.2	127.3	134.0	139.9	144.9
		8.0	1.51	60.1	84.4	102.5	116.7	128.3	138.0	146.2	153.4	159.6
		10.0	2.35	61.1	86.7	106.1	121.6	134.4	145.3	154.6	162.7	169.9
		12.0	3.36	61.8	88.2	108.6	125.1	138.8	150.5	160.7	169.6	177.5
		Airside ΔPs		0.06	0.14	0.24	0.37	0.51	0.68	0.86	1.06	1.28
	Four-Row	9.0	1.58	67.4	97.6	120.6	138.8	153.7	166.2	176.8	185.9	193.9
		10.0	1.95	67.9	98.8	122.6	141.6	157.3	170.5	181.8	191.6	200.2
		11.0	2.36	68.3	99.7	124.2	144.0	160.3	174.1	186.0	196.4	205.6
		12.0	2.80	68.6	100.5	125.6	146.0	162.9	177.3	189.8	200.7	210.3
		Airside ΔPs		0.08	0.18	0.32	0.49	0.68	0.90	1.15	1.42	1.71
Size 24 x 16	Three-Row	6.0	1.86	65.0	103.8	129.6	148.2	162.3	173.5	182.5	190.1	196.5
		8.0	1.76	66.4	108.6	138.0	160.0	177.3	191.2	202.8	212.6	221.1
		10.0	2.74	67.2	111.5	143.4	167.9	187.4	203.4	216.9	228.5	238.6
		12.0	3.92	67.8	113.6	147.2	173.4	194.7	212.3	227.3	240.3	251.6
		Airside ΔPs		0.03	0.09	0.17	0.27	0.40	0.54	0.70	0.88	1.07
	Four-Row	9.0	1.80	72.6	124.0	161.1	189.2	211.2	229.0	243.6	256.0	266.7
		10.0	2.22	73.0	125.5	164.1	193.6	217.1	236.2	252.1	265.6	277.2
		11.0	2.68	73.3	126.7	166.5	197.3	222.0	242.3	259.3	273.9	286.4
		12.0	3.18	73.5	127.7	168.6	200.5	226.3	247.6	265.6	281.1	294.5
		Airside ΔPs		0.04	0.12	0.23	0.37	0.53	0.72	0.93	1.17	1.42

- All coil performance in accordance with AHRI 410-2001
- Heating capacities are in MBH
- Data based on 180°F entering water and 55°F entering air
- For temperature differentials other than 125°, multiply MBH by correction factors below
- Head loss is in feet of water
- Always supply water to lowest connection pipe to prevent air entrapment
- Air temperature rise = 927 x MBH/cfm
- Water temperature drop = 2.04 x MBH/gpm
- Connection size is 1/2" OD male solder for 1-row coil sizes 04-08. All other coils have 7/8" OD male solder.
- Coils are not intended for steam applications and are labeled for a maximum water temperature of 200°F
- Coils are tested for leakage at test pressure of 500 psi
- Water volumes less than those shown may result in laminar flow and reduced heating capacity. If possible reduce the number of coil rows to increase water velocity into turbulent range.

Correction Factors for Other Entering Conditions

ΔT	50	60	70	80	90	100	110	125	140	150
Factor	0.40	0.48	0.56	0.64	0.72	0.80	0.88	1.00	1.12	1.20

Note: Airside ΔPs reflects the air pressure drop of the hot water coil

SELECTION AND CAPACITIES

Recommended Coil Selection Data

The table at the right describes the maximum recommended kW capacities and number of stages available for Titus single duct terminals.



To make a coil selection:

1. Check the desired kW is available in desired unit size and number of stages. (Required to prevent excessive watt density and current draw, while taking into account unit size limitations.)
2. Check the desired minimum airflow limit is within recommended operating range. (Ensures velocity pressure will be sufficient to close airflow sensing switch.)
3. Multiply desired minimum airflow limit by a factor of 0.0142 and check the result is equal to or greater than desired kW. (Limits temperature rise across the coil to 45°F.)

Titus electric heating coils are specifically designed for use with VAV terminal units. They include an extended plenum section and diffuser plate to minimize stratification. The heating elements are designed to minimize hot spots and nuisance tripping of the thermal cutouts.

$$kW \leq cfm \times 0.0142$$

must be within recommended ranges to ensure proper operation and long service life. For optimum diffuser performance and maximum thermal comfort, coil discharge temperatures should not be more than 15°F above desired room temperatures. For proper coil operation it is recommended that coil discharge temperatures do not to exceed 100°F.

These requirements established to prevent excessive temperature rise caused by low airflow and/or oversized coils. Minimum airflow limits

Note: The Titus 480V, 3-phase electric heat configuration is 4-wire wye. 3-wire configuration is available.

PESV, AESV, DESV / APPLICATION DATA (STAGED HEAT)

Inlet Size	Heating cfm Range	Number of Steps Available	120V 1 Phase kW Range		208V 1 Phase kW Range		240V 1 Phase kW Range		277V 1 Phase kW Range		208V 3 Phase kW Range		480V 3 Phase kW Range	
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
4	55-225	1	0.5		0.5		1.0		1.0		1.5	3.0	2.5	3.0
		2	1.0	5.0	1.0	3.0	1.5	3.0	1.5	3.0	1.5	3.0	2.5	3.0
		3	1.5		1.5		2.0		2.5		2.5			
5	85-350	1	0.5		0.5		1.0		1.0		1.5	5.0	2.5	5.0
		2	1.0	5.0	1.0	5.0	1.5	5.0	1.5	5.0	1.5	5.0	2.5	5.0
		3	1.5		1.5		2.0		2.5		2.5			
6	105-500	1	0.5		0.5		1.0		1.0		1.5	7.5	2.5	7.5
		2	1.0	5.0	1.0	7.5	1.5	7.5	1.5	7.5	1.5	7.5	2.5	7.5
		3	1.5		1.5		2.0		2.5		2.5			
7	135-650	1	0.5		0.5		1.0		1.0		1.5	9.5	2.5	9.5
		2	1.0	5.0	1.0	9.5	1.5	9.5	1.5	9.5	1.5	9.5	2.5	9.5
		3	1.5		1.5		2.0		2.5		2.5			
8	190-900	1	0.5		0.5		1.0		1.0		1.5	13.0	2.5	13.0
		2	1.0	5.0	1.0	9.5	1.5	11.0	1.5	13.0	1.5	13.0	2.5	13.0
		3	1.5		1.5		2.0		2.5		2.5			
9	225-1050	1	0.5		0.5		1.0		1.0		1.5	16.0	2.5	16.0
		2	1.0	5.0	1.0	9.5	1.5	11.0	1.5	13.0	1.5	16.0	2.5	16.0
		3	1.5		1.5		2.0		2.5		2.5			
10	300-1400	1	0.5		0.5		1.0		1.0		1.5	21.0	2.5	21.0
		2	1.0	5.0	1.0	9.5	1.5	11.0	1.5	13.0	1.5	16.0	2.5	21.0
		3	1.5		1.5		2.0		2.5		2.5			
12	425-2000	1	0.5		0.5		1.0		1.0		1.5	30.0	2.5	30.0
		2	1.0	5.0	1.0	9.5	1.5	11.0	1.5	13.0	1.5	16.0	2.5	30.0
		3	1.5		1.5		2.0		2.5		2.5			
14	575-3000	1	0.5		1.0		1.0		1.5		1.5	36.0	3.0	36.0
		2	1.0	5.0	2.0	9.5	2.0	11.0	2.0	13.0	2.0	16.0	3.0	36.0
		3	1.5		3.0		3.0		3.0		3.0			
16	750-4000	1	0.5		1.0		1.0		1.5		1.5	36.0	3.0	36.0
		2	1.0	5.0	2.0	9.5	2.0	11.0	2.0	13.0	2.0	16.0	3.0	36.0
		3	1.5		3.0		3.0		3.0		3.0			
24x16	1800-8000	1	1.0		1.0		1.0		1.5		1.5	36.0	4.0	36.0
		2	2.0	5.0	2.0	9.5	2.0	11.0	3.0	13.0	2.0	16.0	4.0	36.0
		3	3.0		3.0		3.0		4.5		3.0			

Useful formulas:

$$kW = \frac{cfm \times \Delta T}{3160} \quad \text{or} \quad \Delta T = \frac{kW \times 3160}{cfm} \quad \text{or} \quad cfm = \frac{kW \times 3160}{\Delta T}$$

Where ΔT = air temperature rise.

PESV, AESV, DESV / APPLICATION DATA (LYNERGY HEAT)

Inlet Size	Heating cfm Range	120V 1 Phase kW Range		208V 1 Phase kW Range		240V 1 Phase kW Range		277V 1 Phase kW Range		208V 3 Phase kW Range		480V 3 Phase kW Range	
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
4	55-225	0.5	2.5	0.5	3.0	1.0	3.0	1.0	3.0	1.5	3.0	2.5	3.0
5	85-350	0.5	4.5	0.5	5.0	1.0	5.0	1.0	5.0	1.5	5.0	2.5	5.0
6	105-500	0.5	5.0	0.5	7.5	1.0	7.5	1.0	7.5	1.5	7.5	2.5	7.5
7	135-650	0.5	5.0	0.5	9.5	1.0	9.5	1.0	9.5	1.5	9.5	2.5	9.5
8	190-900	0.5	5.0	0.5	9.5	1.0	11.0	1.0	13.0	1.5	10.5	2.5	13.0
9	225-1050	0.5	5.0	0.5	9.5	1.0	11.0	1.0	13.0	1.5	10.5	2.5	16.0
10	300-1400	0.5	5.0	0.5	9.5	1.0	11.0	1.0	13.0	1.5	10.5	2.5	21.0
12	425-2000	0.5	5.0	0.5	9.5	1.0	11.0	1.0	13.0	1.5	10.5	2.5	25.0
14	575-3000	0.5	5.0	1.0	9.5	1.0	11.0	1.5	13.0	1.5	10.5	3.0	25.0
16	750-4000	0.5	5.0	1.0	9.5	1.0	11.0	1.5	13.0	1.5	10.5	3.0	25.0
24x16	1800-8000	2.0	5.0	1.0	9.5	1.0	11.0	1.5	13.0	1.5	10.5	4.0	25.0

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