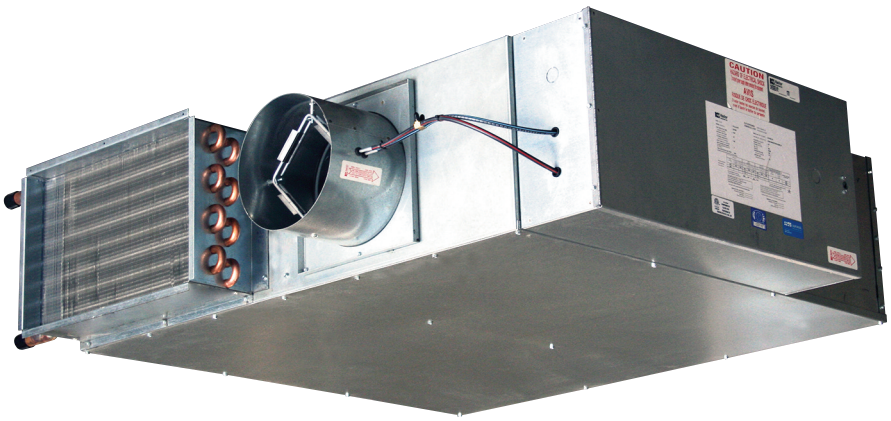
PARALLEL FLOW VARIABLE AIR VOLUME

37N SERIES
• LOW PROFILE



Model 37NW

Models:

37N **No Heat**
37NE **Electric Heat**
37NW **Hot Water Heat**

The **37N Low Profile Series** provides many standard design features and excellent sound performance when compared with other parallel designs. The **37N** offers a compact and economical design that provides excellent performance in the most demanding variable air volume/intermittent fan applications. The fan is mounted at ninety degrees to the primary airflow to provide optimum mixing.

FEATURES:

- Only 11" (279) to 12 1/2" (318) high
- 20 ga. (1.00) galvanized steel construction.
- 2 x 20 ga. (1.00) round or rectangular primary air damper with a polyurethane peripheral gasket. 90° rotation, CW to close. 1/2" (13) dia. plated steel drive shaft. An indicator mark on the end of the shaft shows damper-position. Damper leakage is less than 2% of nominal flow at 3" w.g. (750 Pa).
- Round or rectangular 6" (152) deep inlet collars for field duct connection.
- Multi-point averaging 'Diamond Flow' sensor (pressure independent control only).
- Access panels on underside of terminal for ease of maintenance and service.
- Energy efficient PSC fan motor with thermal overload protection.
- Solid state fan speed controller with minimum voltage stop.
- Motor blower assembly mounted on special 16 ga. (1.6) angles and isolated from casing with rubber isolators.
- Gasketed backdraft damper mounted on fan discharge prevents primary air from escaping through the fan section into the ceiling plenum.
- Hinged door on fan controls enclosure.
- 1/2" (13) dual density insulation. Exposed edges coated to prevent air erosion. Meets requirements of NFPA 90A and UL 181.
- Available with electric or hot water supplementary heat.
- Hot water coils are mounted on induced air inlet of 37NW unit and are designed to accept flanged duct connection.
- Electric coils are mounted on unit discharge.
- Single point electrical and/or pneumatic main air connection.
- Discharge opening designed for flanged duct connection.
- Full primary air valve low voltage enclosure for factory mounted digital and analog electronic controls.

Controls:

- Pneumatic and analog electronic controls. Factory supplied, mounted and calibrated.
- Digital controls. Factory mounting and wiring of DDC controls. Controls supplied by BAS controls contractor.

Options:

- ECM motor option. EPIC fan volume controller.
- Induced air filter, 1" (25) thick, disposable type.
- Primary air valve enclosure for field mounted controls.
- Toggle disconnect switch. Units with electric heat also offer door Interlocking type.
- Various 'IAQ' linings are available.
- Fan airflow switch for night shutdown.
- Night setback fan/heat cycle (pneumatic and analog).
- Fan unit fusing.
- Hanger brackets.
- Induced air attenuator.

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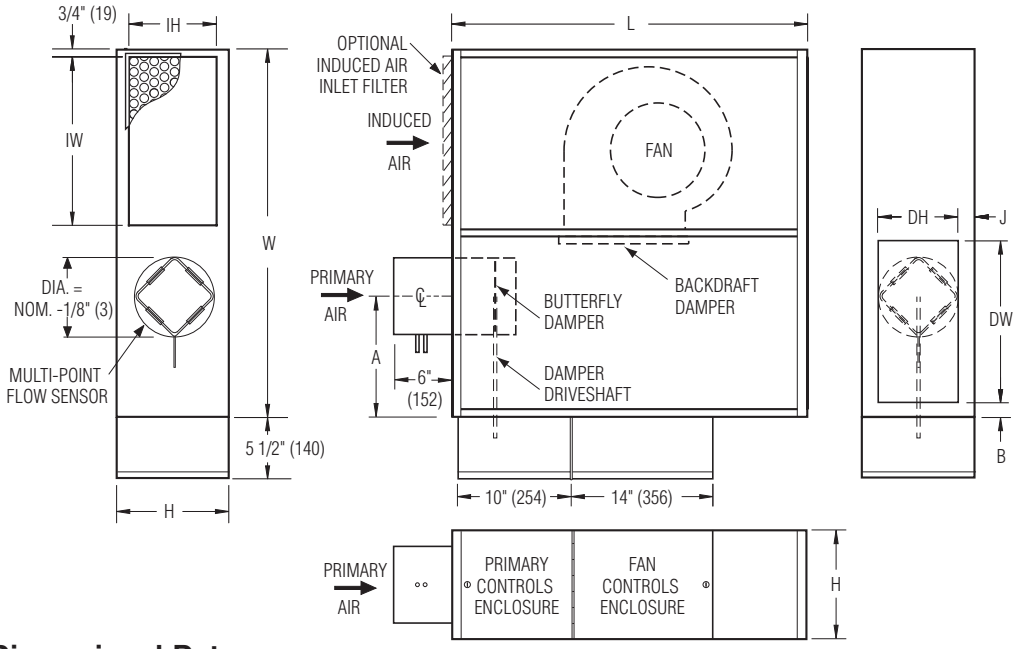
Dimensions

Model Series 37N • Parallel Flow • Low Profile



Right hand unit, top view illustrated. Controls mounted as standard on RH side as shown. Left hand terminals ordered with LH controls (optional), are built as mirror image. Inlet, discharge and control enclosure are opposite of the drawing.

Dimensional Data

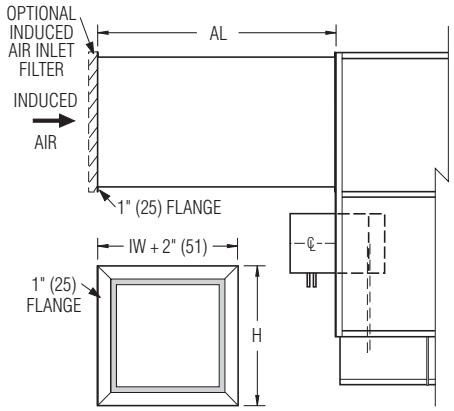
Unit Size	Inlet Size	W	L	H	A	Induced Air Inlet IW x IH	Outlet Discharge DW x DH	B	J	Filter (Optional) Size
2	6 (152), 8 (203) 10 (254)	32 (813)	36 (914)	11 (279)	7⅞ (200) 6½ (165)	12 x 10 (305 x 254)	10 x 8 (254 x 203)	1½ (38)	1½ (38)	14 x 11 (356 x 279)
3	8 (203), 10 (254) 14 x 8 (356 x 203)	38 (965)	36 (914)	11 (279)	12 (305) 8⅛ (206)	16 x 10 (406 x 254)	16 x 8 (406 x 203)	1½ (38)	1½ (38)	18 x 11 (457 x 279)
4	14 x 8 (356 x 203) 14 x 10 (356 x 254)	43 (1092)	36 (914)	12½ (318)	13 (330)	19 x 10 (483 x 254)	19 x 11 (483 x 279)	1 (25)	¾ (19)	22 x 11 (559 x 279)

Options and Accessories:

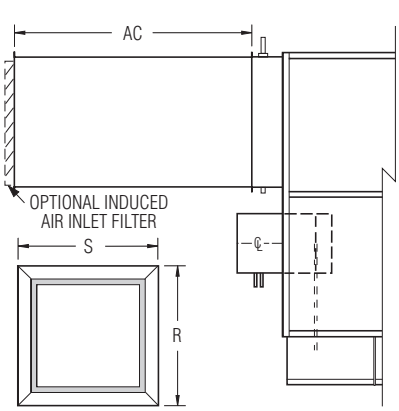
Q option – Induced Air Attenuator

- 22 ga. (0.86) galvanized steel construction.
- Shipped loose for field attachment.
- Flanged connection.
- 1/2" (13) thick dual density fiberglass liner. Meets requirements of NFPA 90A & UL 181.

Without HW Coil



With HW Coil



Unit Size	H	IW	S	R	AL	AC
2	11 (279)	12 (305)	13 (330)	11 (279)	36 (914)	36 (914)
3	11 (279)	16 (406)	17 (432)	11 (279)	36 (914)	36 (914)
4	12½ (318)	19 (483)	22 (559)	11 (279)	36 (914)	36 (914)

Dimensions

Model Series 37N • Parallel Flow • Low Profile

Hot Water Coil Section

Model 37NW

Available in one or two row. Coil section mounted on induced air inlet.

Standard Features:

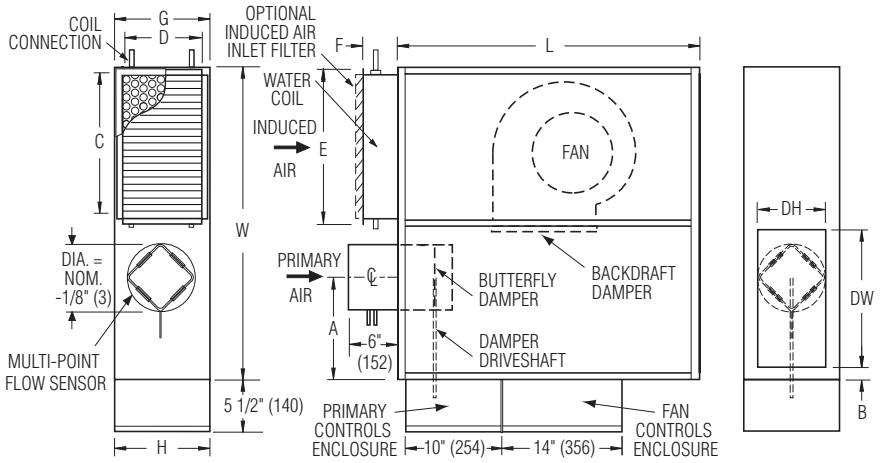
- 1/2" (13) copper tubes.
- Aluminum ripple fins.
- Sweat Connections:
  1/2" (13) O. D. male solder.
  Two row 7/8" (22) O.D. male solder.

Coil Hand Connections:

(Looking in direction of airflow).

- Left hand (illustrated). Standard.
- Right hand (terminals are inverted. Built as mirror image) Optional.

Connections must be selected opposite hand to controls enclosure location.



Unit Size	W	L	H	B	C x D	E	F	G	DW x DH
2	32 (813)	36 (914)	11 (279)	1½ (38)	12 x 10 (305 x 254)	13 (330)	5 (127)	11 (279)	10 x 8 (254 x 203)
3	38 (965)	36 (914)	11 (279)	1½ (38)	16 x 10 (406 x 254)	17 (432)	5 (127)	11 (279)	16 x 8 (406 x 203)
4	43 (1092)	36 (914)	12½ (318)	1 (25)	21 x 10 (533 x 254)	22 (559)	5 (127)	11 (279)	19 x 11 (483 x 279)

Electric Coil Section

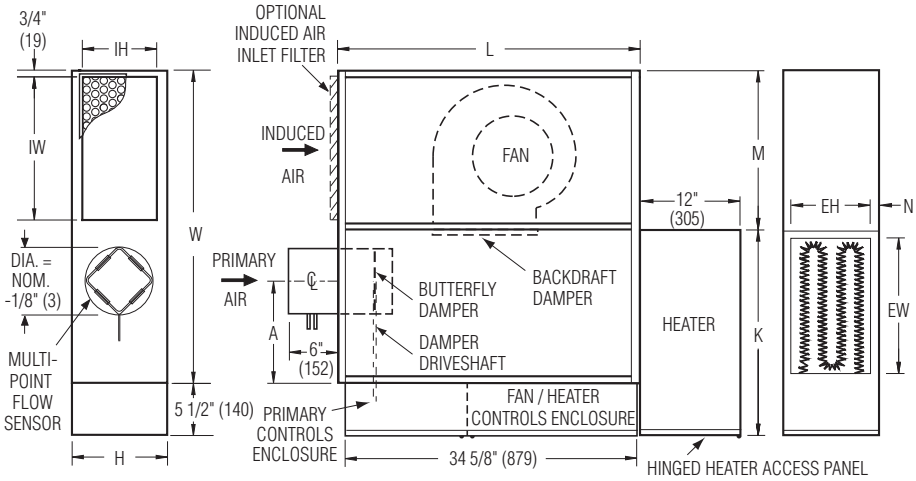
Model 37NE

Standard Features:

- Unique hinged heater design permits easy access, removal and replacement of heater element without disturbing ductwork.
- Coil installed on unit discharge.
- Insulated coil element wrapper.
- Automatic reset high limit cut-outs (one per element).
- Single point electrical connection (except 600V).
- Positive pressure airflow switch.
- Flanged outlet duct connection.
- Terminal unit with coil is ETL Listed as an assembly.
- Controls mounted as standard on RH side as shown. Terminals ordered with LH controls (optional) are built as mirror image.

Standard Supply Voltage (60 Hz):

- 120, 208, 240 and 277V single phase.
- 208, 480 (4 wire wye) and 600V (Dual point connection) three phase.



Options:

- Toggle disconnect switch (includes fan).
- Door interlock disconnect switch.
- Power circuit fusing.
- Class 'A' 80/20 Ni./Ch. wire.
- Dust tight construction.
- Manual reset secondary thermal cut out.

Unit Size	W	L	H	IW x IH	K	M	N	EW x EH
2	32 (813)	36 (914)	11 (279)	12 x 10 (305 x 254)	18½ (470)	19 (483)	1½ (38)	10½ x 9 (267 x 229)
3	38 (965)	36 (914)	11 (279)	16 x 10 (406 x 254)	24½ (622)	19 (483)	1½ (38)	16½ x 9 (419 x 229)
4	43 (1092)	36 (914)	12½ (318)	19 x 10 (483 x 254)	27 (686)	22 (559)	¾ (19)	19 x 10½ (483 x 267)

Performance Data • NC Level Application Guide

Model Series 37N • Parallel Flow • 100% Primary Air • Cooling Cycle

VAV: Fiberglass

Unit Size	Inlet Size	Airflow cfm	Airflow l/s	Min. Inlet ΔPs "w.g.	Min. Inlet ΔPs Pa	NC Levels @ Inlet pressure (ΔPs) shown									
						DISCHARGE					RADIATED				
						Min. ΔPs	0.5" w.g. (125 Pa)	1.0" w.g. (249 Pa)	1.5" w.g. (375 Pa)	2.0" w.g. (500 Pa)	Min. ΔPs	0.5" w.g. (125 Pa)	1.0" w.g. (249 Pa)	1.5" w.g. (375 Pa)	2.0" w.g. (500 Pa)
2	6	450	212	0.19	47	-	-	21	26	30	-	25	31	35	36
		400	189	0.16	40	-	-	20	25	29	-	23	31	34	35
		300	142	0.10	25	-	-	-	23	25	-	21	28	30	31
		200	94	0.05	12	-	-	-	-	21	-	-	23	24	26
		100	47	0.02	5	-	-	-	-	-	-	-	-	-	-
	8	800	378	0.11	27	-	-	20	25	28	-	29	38	40	39
		700	330	0.08	20	-	-	-	24	26	-	29	36	38	39
		600	283	0.06	15	-	-	-	21	24	-	26	34	35	35
		400	189	0.03	7	-	-	-	-	-	-	21	26	26	26
		175	83	0.01	2	-	-	-	-	-	-	-	-	21	23
	10	1400	661	0.27	67	-	20	26	30	33	28	29	36	41	43
		1100	519	0.16	40	-	-	24	28	29	-	28	34	39	40
		825	389	0.09	22	-	-	-	24	26	-	24	33	35	36
		550	260	0.04	10	-	-	-	-	20	-	21	28	29	31
		275	130	0.01	2	-	-	-	-	-	-	-	20	24	25
3	8	800	378	0.14	35	-	-	21	25	28	-	28	34	36	38
		700	330	0.10	25	-	-	20	25	28	-	24	31	34	35
		600	283	0.07	17	-	-	-	23	25	-	21	29	31	33
		400	189	0.03	7	-	-	-	-	-	-	-	21	23	25
		175	83	0.01	2	-	-	-	-	-	-	-	-	21	24
	10	1400	661	0.30	75	-	21	29	33	35	28	33	38	41	44
		1100	519	0.17	42	-	-	24	30	33	20	29	34	38	40
		825	389	0.09	22	-	-	20	25	28	-	25	30	34	35
		550	260	0.04	10	-	-	-	-	20	-	20	25	28	29
		275	130	0.01	2	-	-	-	-	-	-	-	-	22	24
	14 x 8	2100	991	0.30	75	-	20	29	34	38	26	33	38	43	45
		1600	755	0.17	42	-	-	25	29	30	21	30	36	40	41
		1200	566	0.10	24	-	-	20	24	25	-	28	33	35	38
		800	378	0.04	10	-	-	-	-	21	-	-	26	29	28
		400	189	0.01	2	-	-	-	-	-	-	-	20	26	29
4	14 x 8	2100	991	0.08	20	-	23	28	33	35	24	34	38	41	44
		1600	755	0.04	11	-	-	24	29	31	-	30	35	40	43
		1200	566	0.02	5	-	-	-	25	26	-	24	30	34	35
		800	378	0.01	2	-	-	-	-	21	-	-	25	26	30
		400	189	0.01	2	-	-	-	-	-	-	-	-	26	29
	14 x 10	2700	1274	0.10	25	-	24	30	35	37	26	34	40	45	49
		1950	920	0.05	12	-	-	25	30	33	-	30	36	43	45
		1550	731	0.03	7	-	-	21	28	30	-	26	34	39	41
		1050	495	0.01	2	-	-	-	23	25	-	21	29	34	36
		525	248	0.01	2	-	-	-	-	-	-	-	-	24	26

Performance Notes:

1. NC levels are calculated from the published raw data and based on procedures outlined in Appendix E, AHRI 885-2008.
2. Discharge sound attenuation deductions are based on environmental effect, duct lining, branch power division, insulated flex duct, end reflection and space effect and are as follows:

Discharge attenuation	Octave Band 2	3	4	5	6	7
< 300 cfm	24	28	39	53	59	40
300 – 700 cfm	27	29	40	51	53	39
> 700 cfm	29	30	41	51	52	39

3. Radiated sound attenuation deductions are based on a mineral tile ceiling and environmental effect and are as follows:

Radiated attenuation	Octave Band 2	3	4	5	6	7
Total dB reduction	18	19	20	26	31	36

4. Min. inlet ΔPs is the minimum static pressure required to achieve rated airflow (damper full open).
5. Dash (-) in space denotes an NC level of less than 20.
6. For a complete explanation and details on NC calculations, refer to page D135 and the engineering section of this catalog.

Performance Data • Discharge Sound Power Levels

Model Series 37N • Parallel Flow • 100% Primary Air • Cooling Cycle

VAV: Fiberglass

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AHRI Standard 880

Unit Size	Inlet Size	Airflow cfm	Airflow l/s	Min. Inlet ΔPs "w.g.	Min. Inlet ΔPs Pa	Sound Power Octave Bands @ Inlet Pressure ΔPs shown																							
						Minimum ΔPs						0.5" w.g.(125Pa)ΔPs						1.0" w.g. (249Pa)ΔPs						1.5" w.g. (375Pa)ΔPs						2.0" w.g. (500Pa)ΔPs					
						2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7
2	6	450	212	0.19	47	52	51	50	43	34	32	56	56	56	48	37	36	62	63	61	54	41	40	66	67	65	57	44	43	68	70	67	58	45	46
		400	189	0.16	40	55	49	47	41	31	29	55	55	54	47	35	33	62	62	60	53	39	38	65	66	63	56	42	42	67	69	66	57	44	45
		300	142	0.10	25	47	43	42	34	26	21	53	53	52	43	31	29	60	60	57	49	36	36	63	64	61	52	40	41	63	66	63	53	42	44
		200	94	0.05	12	-	36	34	25	15	-	51	49	48	40	26	25	55	56	54	44	33	35	56	60	58	47	38	41	57	62	60	49	40	44
		100	47	0.02	5	-	-	23	-	-	-	-	46	44	36	23	24	47	53	50	40	31	35	47	55	55	45	36	39	50	56	57	47	39	41
	8	800	378	0.11	27	50	50	46	40	33	28	58	58	54	51	40	35	63	63	59	55	43	39	65	67	63	58	45	42	67	69	66	59	47	44
		700	330	0.08	20	47	46	43	37	30	24	56	56	52	49	38	32	61	61	57	53	41	36	64	65	61	56	43	40	65	67	63	57	45	42
		600	283	0.06	15	-	43	40	35	27	21	54	54	50	46	35	29	60	60	56	51	38	34	62	63	60	54	41	39	63	65	62	56	43	42
		400	189	0.03	7	-	38	36	30	25	19	51	51	47	43	30	24	55	55	52	47	34	33	56	58	56	50	36	39	56	58	57	52	37	40
		175	83	0.01	2	-	-	25	18	-	-	-	43	41	35	28	23	46	48	49	41	25	34	46	50	55	47	30	30	47	51	57	51	34	33
	10	1400	661	0.27	67	60	60	55	51	48	44	63	63	59	53	49	44	66	68	64	57	51	47	69	71	68	60	54	49	70	73	70	62	55	50
		1100	519	0.16	40	54	54	50	46	42	36	61	60	55	49	45	39	64	66	61	54	48	42	**67**	**69**	**65**	**57**	**50**	**45**	68	70	68	60	52	47
		825	389	0.09	22	-	48	45	41	35	27	57	57	52	45	40	33	61	62	58	50	43	37	64	66	62	55	47	43	65	68	65	57	49	44
		550	260	0.04	10	-	42	39	34	26	19	54	53	48	41	34	27	57	59	54	46	40	36	59	61	57	49	42	37	60	62	59	51	43	39
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3	8	800	378	0.14	35	57	53	48	43	37	31	63	60	55	50	40	35	67	64	59	54	43	39	69	67	63	57	46	42	71	69	65	58	47	44
		700	330	0.10	25	55	51	45	40	33	27	61	57	52	47	38	32	65	62	58	52	41	37	67	66	61	55	44	40	69	68	63	57	46	43
		600	283	0.07	17	51	47	42	37	30	23	58	56	51	46	36	30	64	61	57	51	40	37	65	64	60	53	42	39	67	66	62	55	44	41
		400	189	0.03	7	-	39	36	32	27	17	54	51	47	44	32	25	58	56	53	47	35	35	60	58	56	51	38	36	61	60	58	53	40	37
		175	83	0.01	2	-	-	-	23	-	-	-	44	43	34	19	-	49	50	52	42	28	25	51	52	56	48	33	31	49	52	58	51	36	35
	10	1400	661	0.30	75	65	61	57	52	46	41	67	64	60	54	48	42	72	70	66	59	51	46	75	73	69	62	54	48	77	75	72	64	55	50
		1100	519	0.17	42	59	54	51	46	40	34	65	62	57	51	44	38	69	66	62	55	47	41	73	71	67	60	51	46	74	73	69	62	53	48
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		550	260	0.04	10	-	42	39	35	29	-	56	53	50	44	36	28	62	59	55	48	40	37	64	61	58	51	42	39	64	62	59	52	43	41
		275	130	0.01	2	-	-	31	29	26	-	49	46	45	38	34	25	53	51	49	41	32	36	56	53	53	45	36	33	57	55	55	48	38	36
	14 x 8	2100	991	0.30	75	62	60	57	53	47	44	65	63	60	55	48	46	69	70	66	59	52	50	73	74	69	62	55	54	78	78	73	67	61	60
		1600	755	0.17	42	55	53	50	46	41	35	62	61	57	51	44	41	69	67	63	56	48	48	**71**	**70**	**66**	**59**	**51**	**51**	73	71	67	60	53	53
		1200	566	0.10	22	48	48	45	41	35	29	60	57	54	48	40	39	65	63	59	53	45	45	67	66	62	56	48	48	68	67	64	57	50	50
		800	378	0.04	10	-	40	39	35	28	-	53	52	50	45	36	35	58	57	54	48	41	39	60	61	58	51	44	44	61	64	61	53	45	47
		400	189	0.01	2	-	-	34	32	30	-	-	46	44	39	32	26	50	56	53	43	36	36	51	60	59	48	41	41	51	59	61	51	44	44
4	14 x 8	2100	991	0.08	20	64	58	56	51	44	43	71	65	63	56	49	48	74	69	67	59	52	52	78	73	70	63	55	55	79	75	72	64	57	57
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		1200	566	0.02	5	-	44	41	36	29	23	62	57	55	48	40	39	66	62	60	53	46	47	70	67	64	56	50	52	71	68	66	58	51	53
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	14 x 10	2700	1274	0.10	25	64	60	57	53	46	43	70	66	64	57	51	50	75	71	68	61	55	54	78	75	72	64	58	58	80	77	74	66	61	60
		1950	920	0.05	12	56	51	48	43	36	32	66	62	59	52	46	44	71	67	65	57	52	50	**75**	**71**	**68**	**61**	**56**	**54**	76	73	70	63	58	56
		1550	731	0.03	7	51	45	42	38	30	23	64	60	57	50	43	41	69	64	62	55	49	47	73	69	66	59	54	52	74	71	68	61	56	55
		1050	495	0.01	2	-	39	35	30	25	18	59	55	52	46	39	37	65	61	58	51	46	44	68	65	63	55	50	51	70	67	64	57	50	52
		525	248	0.01	2	-	-	31	29	25	-	53	48	46	40	33	28	56	54	51	44	39	37	58	58	56	48	43	42	59	60	60	51	45	46

Performance Notes:

1. Sound levels are primary air only with fan turned off – cooling cycle.

2. Discharge sound power is the sound emitted from the unit discharge into the downstream duct.

3. Sound power levels are in decibels, dB re 10^{-12} watts.

4. All sound data listed by octave bands is raw data without any corrections for room absorption or duct attenuation. Dash (-) in space indicates sound power level is less than 20 dB.

5. Min. inlet ΔPs is the minimum operating pressure of the primary air valve section.

6. Data derived from independent tests conducted in accordance with ANSI/ASHRAE Std 130-2008 and AHRI Standard 880-2008.

7. **RED** highlighted numbers indicate embedded AHRI certification points.

Performance Data • Radiated Sound Power Levels

Model Series 37N • Parallel Flow • 100% Primary Air • Cooling Cycle

VAV: Fiberglass

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VAV Terminals
AHRI Standard 880

Unit Size	Inlet Size	Airflow cfm	Airflow l/s	Min. Inlet ΔPs "w.g.	Min. Inlet ΔPs Pa	Sound Power Octave Bands @ Inlet Pressure ΔPs shown																													
						Minimum ΔPs						0.5" w.g.(125Pa)ΔPs						1.0" w.g. (249Pa)ΔPs						1.5" w.g. (375Pa)ΔPs						2.0" w.g. (500Pa)ΔPs					
						2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7
2	6	450	212	0.19	47	55	48	40	36	32	25	62	53	46	40	35	31	67	59	52	43	36	32	70	63	56	46	38	35	71	65	58	48	39	37
		400	189	0.16	40	52	45	38	35	31	-	60	51	44	38	33	25	67	58	51	42	35	30	69	62	55	45	37	34	70	64	57	46	38	36
		300	142	0.10	25	-	-	36	34	32	-	59	49	42	36	33	-	64	55	48	40	35	27	66	58	52	42	35	31	67	61	55	44	37	35
		200	94	0.05	12	-	-	33	31	29	-	55	46	40	36	34	-	60	52	46	38	35	26	59	54	50	40	36	31	59	55	52	41	35	33
		100	47	0.02	5	-	-	29	26	-	-	-	40	35	29	-	-	-	44	41	31	26	-	-	45	45	34	29	27	-	46	45	36	31	31
	8	800	378	0.11	27	56	46	39	37	36	27	65	54	46	42	39	32	72	59	51	44	41	35	74	63	55	45	41	35	73	65	57	47	42	37
		700	330	0.08	20	56	44	38	36	36	26	65	52	45	40	38	30	71	59	50	43	40	32	72	62	54	44	40	34	73	63	56	45	41	35
		600	283	0.06	15	52	41	36	34	36	25	63	50	43	38	38	29	69	55	48	40	38	31	70	59	52	42	39	33	70	61	53	44	40	34
		400	189	0.03	7	50	39	35	33	34	23	59	47	40	36	37	27	63	51	44	37	37	28	63	53	48	39	37	31	63	55	50	41	37	32
		175	83	0.01	2	-	-	33	30	25	-	49	43	38	32	32	22	52	45	42	33	31	22	53	47	47	37	33	25	54	47	49	40	33	27
	10	1400	661	0.27	67	64	54	47	43	45	38	65	55	48	43	44	37	71	61	53	45	44	37	75	65	57	47	44	39	76	68	59	48	44	40
		1100	519	0.16	40	57	49	43	41	42	35	64	54	46	41	42	34	69	59	50	43	42	35	**73**	**64**	**55**	**45**	**42**	**37**	74	66	57	46	42	38
		825	389	0.09	22	50	44	38	38	41	32	61	52	44	40	41	32	68	57	49	41	40	33	70	60	52	42	39	35	71	62	54	44	39	36
		550	260	0.04	10	-	42	38	38	39	31	59	50	42	39	40	31	64	53	45	39	38	31	65	56	48	40	38	32	67	58	51	42	39	34
		275	130	0.01	2	-	41	35	37	37	25	54	46	39	38	38	27	58	49	42	38	37	28	61	52	45	39	37	30	62	54	46	40	38	33
3	8	800	378	0.14	35	57	48	43	37	31	26	64	53	46	41	34	29	69	57	50	43	37	33	71	60	53	44	39	36	72	63	55	46	41	38
		700	330	0.10	25	52	46	42	36	29	22	61	51	45	38	31	26	67	55	48	41	35	31	69	59	52	43	37	35	70	61	54	45	39	37
		600	283	0.07	17	-	44	41	34	28	20	59	49	43	37	30	24	65	54	47	39	33	30	67	57	50	41	36	33	68	59	52	43	38	36
		400	189	0.03	7	-	41	41	34	27	18	53	46	41	34	28	21	59	50	44	36	30	27	60	52	47	38	32	31	62	53	49	41	34	32
		175	83	0.01	2	-	41	42	37	30	19	-	44	41	33	28	19	-	46	44	33	27	22	-	47	47	37	30	27	-	47	50	41	32	30
	10	1400	661	0.30	75	64	54	49	43	40	35	68	58	51	44	41	37	72	63	56	47	42	39	75	68	60	50	44	42	77	69	62	52	46	44
		1100	519	0.17	42	58	48	46	40	34	27	65	55	49	43	36	32	69	61	54	46	39	35	72	65	58	48	41	39	74	67	60	50	42	40
		825	389	0.09	22	-	45	44	38	28	18	62	53	48	41	33	26	66	58	51	43	36	31	69	62	54	45	37	36	70	63	56	46	39	38
		550	260	0.04	10	-	43	43	36	25	-	58	50	45	38	30	21	62	54	47	39	32	29	64	57	50	41	34	33	65	58	51	42	35	35
		275	130	0.01	2	-	42	42	36	26	-	52	46	43	35	28	19	54	48	45	37	28	22	57	51	48	40	31	26	58	53	50	42	34	30
	14 x 8	2100	991	0.30	75	63	54	51	46	40	36	68	58	53	48	43	39	72	63	56	51	47	45	76	68	59	53	49	48	78	69	60	55	51	50
		1600	755	0.17	42	56	50	47	41	34	28	66	55	49	44	39	36	71	60	52	47	44	42	**74**	**63**	**55**	**49**	**47**	**46**	75	65	57	51	49	49
		1200	566	0.10	25	52	46	44	37	28	17	64	51	45	40	37	36	68	56	49	44	42	41	70	60	52	46	46	45	72	62	55	48	48	48
		800	378	0.04	10	-	43	43	34	25	-	57	47	42	37	35	35	63	53	46	41	41	41	65	57	49	44	45	45	66	59	53	46	47	47
		400	189	0.01	2	-	39	42	35	27	-	-	45	41	35	33	35	56	52	46	39	40	40	57	56	52	43	44	44	56	55	54	46	46	47
4	14 x 8	2100	991	0.08	20	61	53	50	45	40	35	69	59	54	49	44	40	72	62	57	51	47	44	75	65	59	53	49	47	77	67	61	55	52	50
		1600	755	0.04	10	56	45	44	38	32	26	66	54	49	44	40	36	70	59	53	48	44	41	74	62	56	50	47	46	76	64	58	52	49	49
		1200	566	0.02	5	50	41	38	32	27	17	61	50	46	41	36	32	66	56	50	45	42	40	69	59	53	47	45	47	70	62	56	49	47	50
		800	378	0.01	2	-	-	34	27	24	-	56	46	42	37	32	27	62	52	46	40	37	34	63	56	50	44	41	39	64	58	52	46	43	42
		400	189	0.01	2	-	-	34	27	21	-	49	41	38	32	28	22	53	49	44	36	32	30	55	54	52	42	37	36	54	53	54	45	40	39
	14 x 10	2700	1274	0.10	25	62	55	52	47	44	36	69	61	56	50	47	42	74	65	60	54	51	48	78	68	62	56	53	50	81	71	64	58	55	55
		1950	920	0.05	12	54	48	45	39	35	26	66	56	51	45	41	37	71	60	54	48	45	41	**76**	**64**	**57**	**51**	**48**	**46**	78	67	60	53	50	48
		1550	731	0.03	7	52	44	41	35	31	23	63	53	49	44	40	35	69	58	52	47	45	42	73	62	56	50	48	47	75	65	59	53	51	51
		1050	495	0.01	2	-	43	37	32	28	18	59	49	45	41	38	35	65	54	49	44	43	44	69	59	53	47	45	47	71	62	56	50	48	49
		525	248	0.01	2	-	40	36	30	25	-	52	45	40	37	35	32	57	49	44	41	40	39	59	53	50	45	44	43	60	55	52	47	46	46

Performance Notes:

1. Sound levels are primary air only with fan turned off – cooling cycle.

2. Radiated sound power is the breakout sound transmitted through the unit casing walls and the induced air inlet.

3. Sound power levels are in decibels, dB re 10^{-12} watts.

4. All sound data listed by octave bands is raw data without any corrections for room absorption or duct attenuation. Dash (-) in space indicates sound power level is less than 20 dB.

5. Min. inlet ΔPs is the minimum operating pressure of the primary air valve section.

6. Data derived from independent tests conducted in accordance with ANSI/ASHRAE Std 130-2008 and AHRI Standard 880-2008.

7. **RED** highlighted numbers indicate embedded AHRI certification points.

Performance Data • NC Level Application Guide

Model Series 37N • Parallel Flow • Fan Only • Heating Cycle

VAV: Fiberglass

PSC Motor

Unit Size	Inlet Size	Airflow cfm	Airflow l/s	Discharge ΔPs "w.g.	Discharge ΔPs Pa	NC Levels Discharge	NC Levels Radiated
2	ALL	700	330	0.25	62	-	34
		550	260	0.25	62	-	31
		400	189	0.25	62	-	31
		250	118	0.25	62	-	26
3	ALL	850	401	0.25	62	20	38
		700	330	0.25	62	-	35
		550	260	0.25	62	-	32
		350	165	0.25	62	-	28
4	ALL	1350	637	0.25	62	28	45
		1100	519	0.25	62	21	41
		825	389	0.25	62	-	36
		450	212	0.25	62	-	31

Performance Notes:

1. NC levels are calculated from the published raw data and based on procedures outlined in Appendix E, AHRI 885-2008.
2. Discharge sound attenuation deductions are based on environmental effect, duct lining, branch power division, insulated flex duct, end reflection and space effect and are as follows:

Discharge attenuation	Octave Band 2	3	4	5	6	7
< 300 cfm	24	28	39	53	59	40
300 – 700 cfm	27	29	40	51	53	39
> 700 cfm	29	30	41	51	52	39

3. Radiated sound attenuation deductions are based on a mineral tile ceiling and environmental effect and are as follows:

Radiated attenuation	Octave Band 2	3	4	5	6	7
Total dB reduction	18	19	20	26	31	36

4. Min. inlet ΔPs is the minimum static pressure required to achieve rated airflow (damper full open).
5. Dash (-) in space denotes an NC level of less than 20.
6. For a complete explanation and details on NC calculations, refer to page D135 and the engineering section of this catalog.

Performance Data • Sound Power Levels

Model Series 37N • Parallel Flow • Fan Only • Heating Cycle

VAV: Fiberglass

AHRI CERTIFIED™ www.ahridirectory.org
VAV Terminals
AHRI Standard 880

PSC Motor

Unit Size	Inlet Size	Airflow cfm	Airflow l/s	Discharge ΔPs "w.g.	Discharge ΔPs Pa	Sound Power Octave Bands											
						Discharge						Radiated					
						2	3	4	5	6	7	2	3	4	5	6	7
2	ALL	700	330	0.25	62	60	60	59	55	46	48	67	60	59	54	49	42
		550	260	0.25	62	**57**	**56**	**55**	**50**	**41**	**43**	**65**	**58**	**56**	**50**	**46**	**38**
		400	189	0.25	62	53	53	53	47	37	38	63	57	56	48	44	36
		250	118	0.25	62	-	50	48	41	30	26	59	54	52	43	38	29
3	ALL	850	401	0.25	62	68	63	62	58	52	55	72	65	63	59	51	43
		700	330	0.25	62	**65**	**58**	**59**	**54**	**47**	**50**	**68**	**60**	**60**	**55**	**47**	**38**
		550	260	0.25	62	64	54	55	50	42	45	67	57	57	51	43	33
		350	165	0.25	62	60	49	50	44	36	35	62	53	53	46	38	26
4	ALL	1350	637	0.25	62	74	69	70	67	62	63	77	72	69	66	59	51
		1100	519	0.25	62	**70**	**64**	**66**	**62**	**56**	**57**	**73**	**67**	**66**	**62**	**54**	**46**
		825	389	0.25	62	65	58	61	56	49	50	69	61	61	56	47	39
		450	212	0.25	62	58	51	52	45	38	36	64	55	56	49	40	30

Performance Notes:

1. Sound levels are 100% recirculated air only with fan on – heating cycle.
2. Discharge (external) static pressure is the difference (ΔPs) in static pressure from terminal discharge to the room.
3. Radiated sound power is the break-out sound transmitted through the unit casing walls and the induced air inlet.
4. Discharge sound power is the sound emitted from the unit discharge into the downstream duct.
5. Sound power levels are in decibels, dB re 10^{-12} watts.
6. All sound data listed by octave bands is raw data without any corrections for room absorption or duct attenuation.
7. Data derived from independent tests conducted in accordance with ANSI/ASHRAE Std. 130-2008 and AHRI Standard 880-2008.
8. **RED** highlighted numbers indicate embedded AHRI certification points.

Performance Data • AHRI Certification and Performance Notes

Model Series 37N • Parallel Flow • AHRI Certification Points

VAV: Fiberglass

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VAV Terminals
AHRI Standard 880

Unit Size	Inlet Size	Primary Airflow cfm	Primary Airflow l/s	Min. Inlet ΔPs "w.g.	Min. Inlet ΔPs Pa	100% Primary - Sound Power @ 1.5" w.g. (375 Pa) ΔPs Discharge 2	3	4	5	6	7	Radiated 2	3	4	5	6	7	Fan Airflow cfm	Fan Airflow l/s	Fan † Watts	Fan Only-Sound Power @ .25" w.g. (62 Pa) ΔPs Discharge 2	3	4	5	6	7	Radiated 2	3	4	5	6	7
2	10	1100	519	0.16	40	67	69	65	57	50	45	73	64	55	45	42	37	550	260	275	57	56	55	50	41	43	65	58	56	50	46	38
3	14 x 8	1600	755	0.17	42	71	70	66	59	51	51	74	63	55	49	47	46	700	330	355	65	58	59	54	47	50	68	60	60	55	47	38
4	14x10	1950	920	0.05	12	75	71	68	61	56	54	76	64	57	51	48	46	1100	519	570	70	64	66	62	56	57	73	67	66	62	54	46

† PSC Motor.

AHRI Certification Notes:

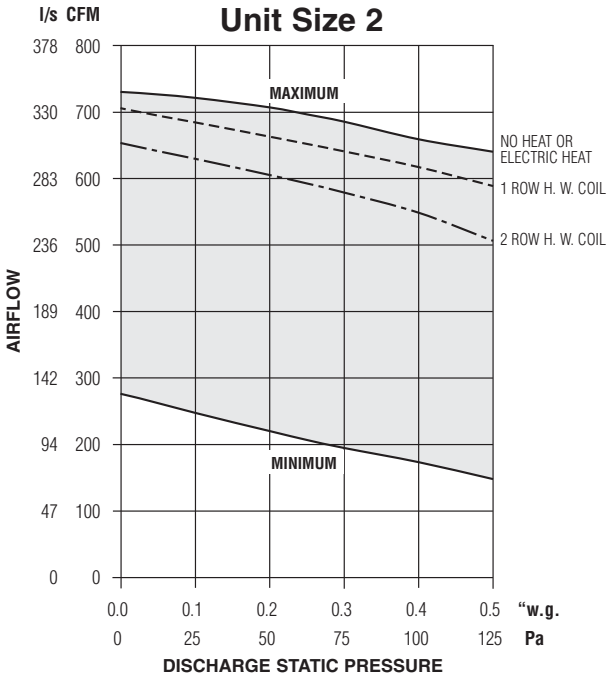
1. Primary airflow is the standard rated air volume for the inlet size listed.
2. Minimum inlet ΔPs is the minimum static pressure required to achieve rated primary CFM.
3. 100% primary air sound power levels are cooling cycle (fan turned off).
4. Fan airflow is rated fan volume at .25" w.g. (62 Pa) downstream static pressure.
5. Fan only sound power levels are 100% recirculated air; fan only; in heating cycle.
6. Fan Watts are the maximum electrical power input at rated fan volume.

Performance Data

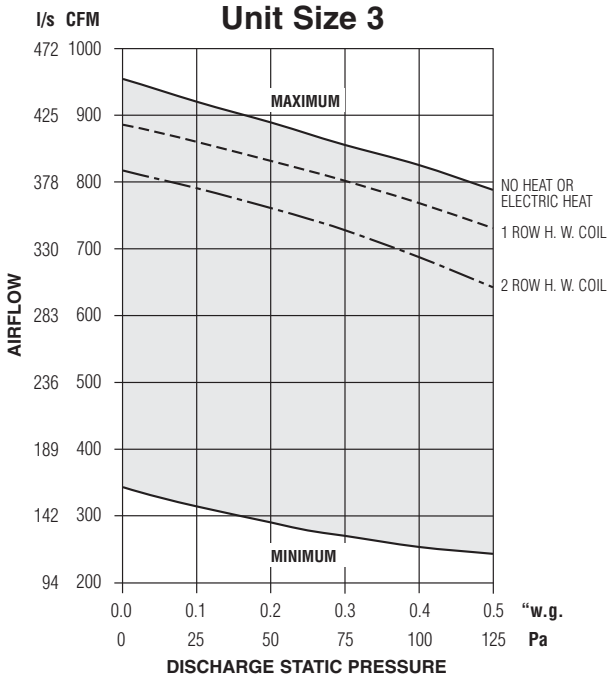
PSC Motor Fan Curves – Airflow vs. Downstream Static Pressure

37N Series • Parallel Flow • Low Profile

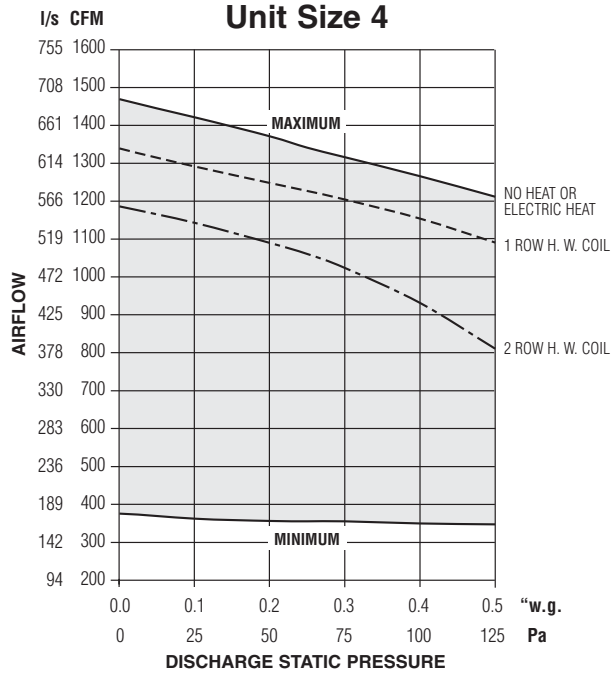
Unit Size 2



Unit Size 3



Unit Size 4



• Fan curves shown are applicable to 120, 208, 240 and 277 volt, single phase PSC motors.

Electrical Data

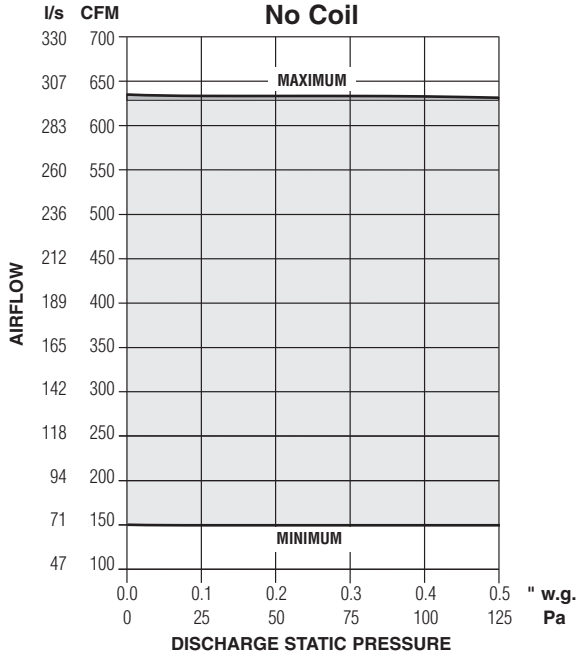
Unit Size	Motor H.P.	PSC MOTOR FLA			
		120/1/60	208/1/60	240/1/60	277/1/60
2	1/6	4.6	1.8	1.8	1.3
3	1/4	5.4	2.2	2.2	1.7
4	1/2	7.5	3.5	3.5	2.6

FLA = Full load amperage

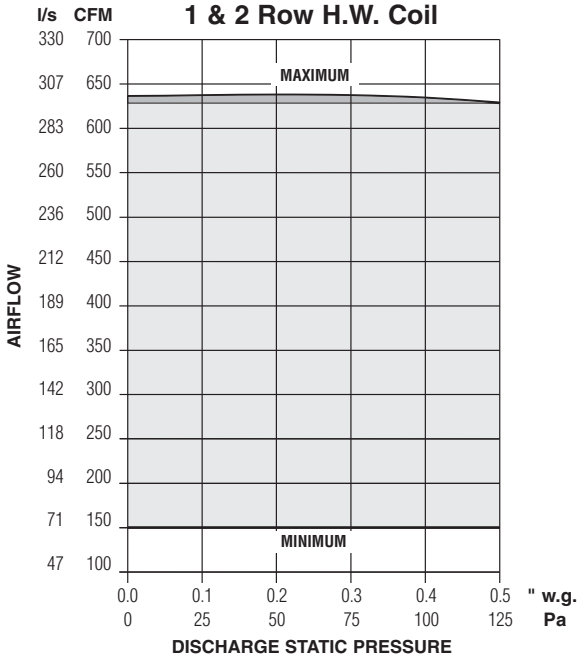
Performance Data

ECM Motor Option Fan Curves – Airflow vs. Downstream Static Pressure
37N Series • Parallel Flow • Low Profile • EPIC Fan Technology®

Unit Size 2
No Coil



Unit Size 2
1 & 2 Row H.W. Coil



NOTES:

- The fan curves for the ECM are unlike those for traditional PSC motors. The ECM is pressure independent and constant volume in operation at factory or field set point within the shaded area. Airflow does not vary with changing static pressure conditions. The motor compensates for any changes in external static pressure or induced air conditions such as filter loading.
- Airflow can be set to operate on horizontal performance line at any point within shaded area using the solid state volume controller provided.
- Fan curves shown are applicable to 120/240, 208 and 277 volt, single phase ECM's. ECM's, although DC in operation, include a built-in inverter.

Electrical Data

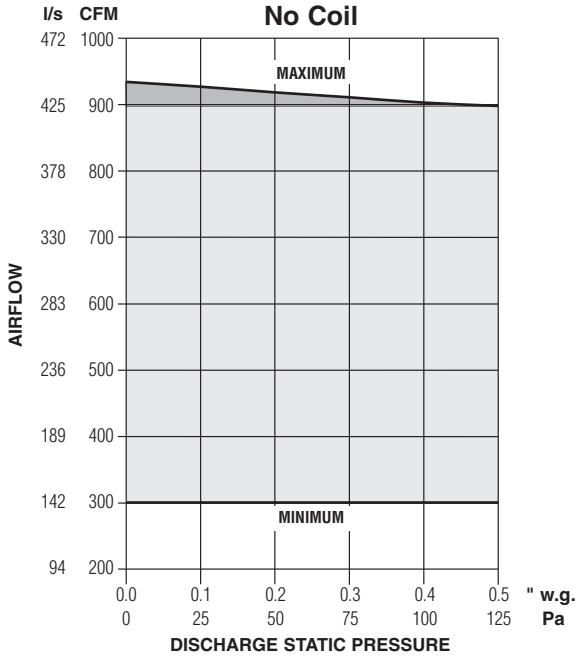
Unit Size	Motor H.P.	ECM FLA			
		120/1/60	208/1/60	230/1/60	277/1/60
2	*	2.7	1.9	1.8	1.6

* The ECM is a variable horsepower motor. Refer to Selectworks Schedule.
FLA = Full load amperage

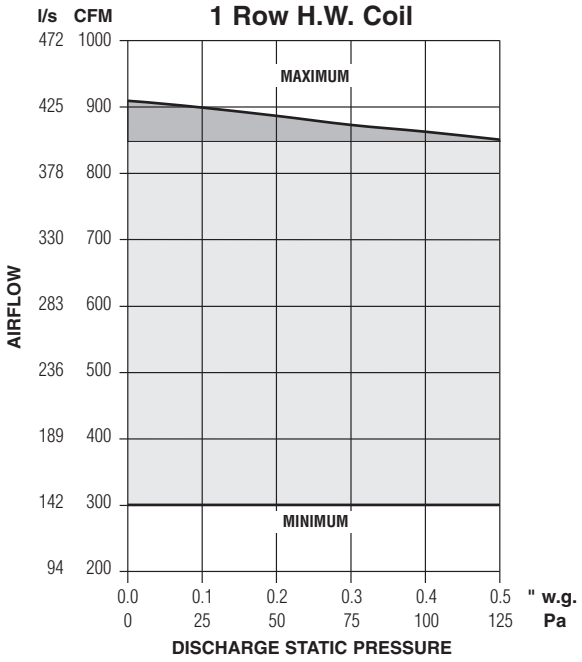
Performance Data

ECM Motor Option Fan Curves – Airflow vs. Downstream Static Pressure
37N Series • Parallel Flow • Low Profile • EPIC Fan Technology®

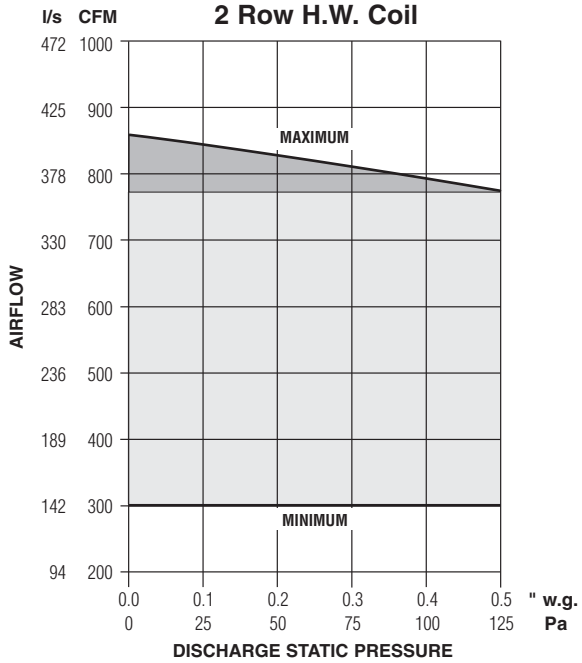
Unit Size 3
No Coil



Unit Size 3
1 Row H.W. Coil



Unit Size 3
2 Row H.W. Coil



NOTES:

- The fan curves for the ECM are unlike those for traditional PSC motors. The ECM is pressure independent and constant volume in operation at factory or field set point within the shaded area. Airflow does not vary with changing static pressure conditions. The motor compensates for any changes in external static pressure or induced air conditions such as filter loading.
- Airflow can be set to operate on horizontal performance line at any point within shaded area using the solid state volume controller provided.
- Fan curves shown are applicable to 120/240, 208 and 277 volt, single phase ECM's. ECM's, although DC in operation, include a built-in inverter.

Electrical Data

Unit Size	Motor H.P.	ECM FLA			
		120/1/60	208/1/60	230/1/60	277/1/60
3	*	4.8	3.3	3.1	2.7

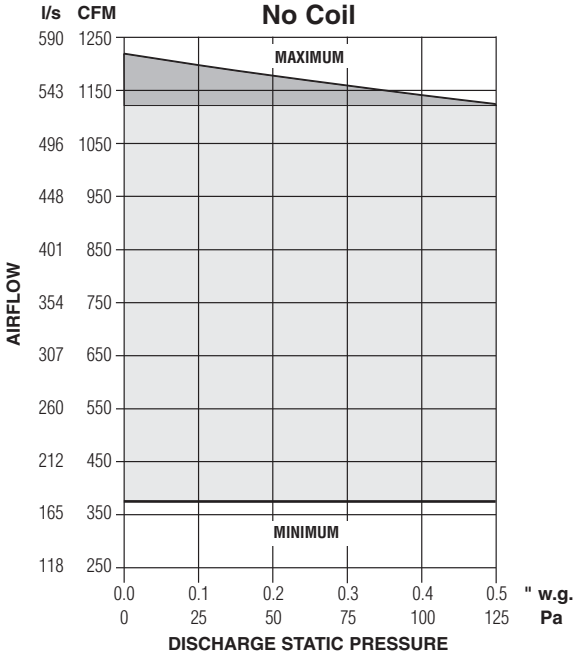
* The ECM is a variable horsepower motor. Refer to Selectworks Schedule.

FLA = Full load amperage

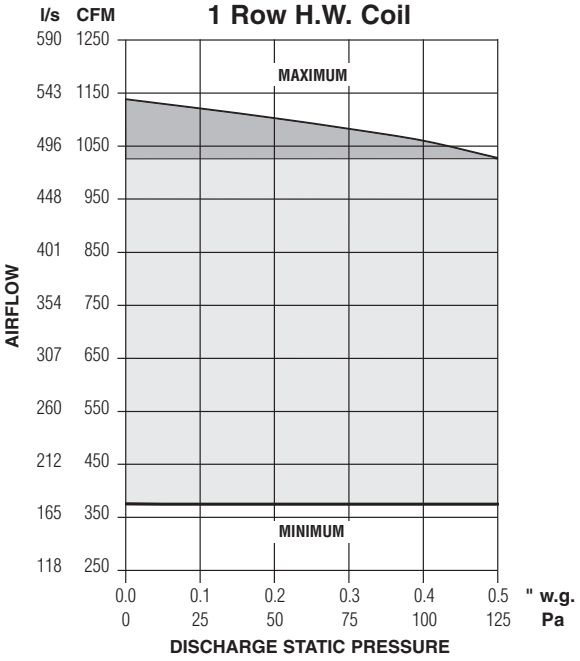
Performance Data

ECM Motor Option Fan Curves – Airflow vs. Downstream Static Pressure
37N Series • Parallel Flow • Low Profile • EPIC Fan Technology®

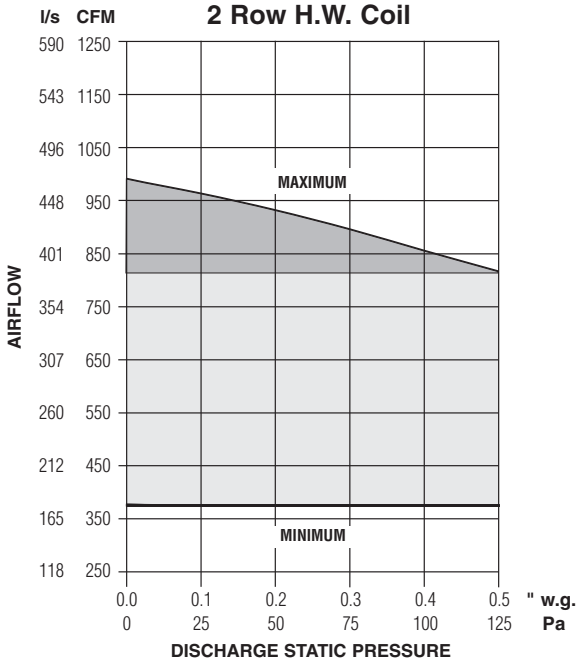
Unit Size 4
No Coil



Unit Size 4
1 Row H.W. Coil



Unit Size 4
2 Row H.W. Coil



NOTES:

- The fan curves for the ECM are unlike those for traditional PSC motors. The ECM is pressure independent and constant volume in operation at factory or field set point within the shaded area. Airflow does not vary with changing static pressure conditions. The motor compensates for any changes in external static pressure or induced air conditions such as filter loading.
- Airflow can be set to operate on horizontal performance line at any point within shaded area using the solid state volume controller provided.
- Fan curves shown are applicable to 120/240, 208 and 277 volt, single phase ECM's. ECM's, although DC in operation, include a built-in inverter.

Electrical Data

Unit Size	Motor H.P.	ECM FLA			
		120/1/60	208/1/60	230/1/60	277/1/60
4	*	5.7	3.9	3.7	3.2

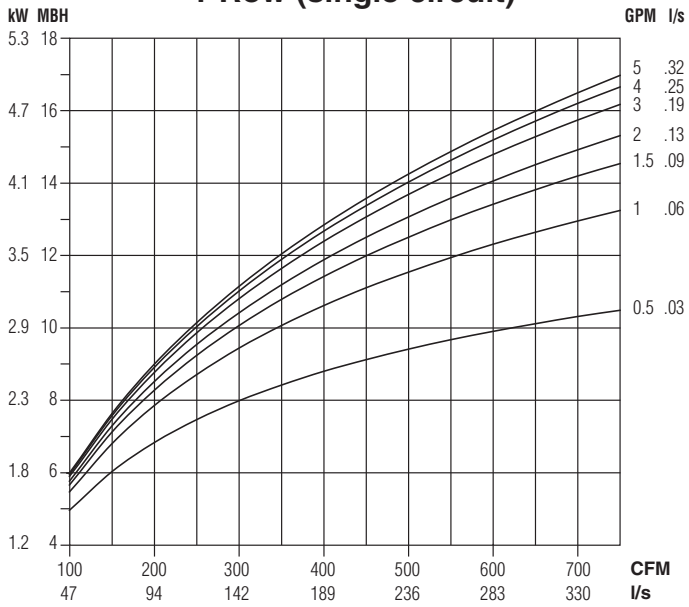
* The ECM is a variable horsepower motor. Refer to Selectworks Schedule.
FLA = Full load amperage

Performance Data • Hot Water Coil

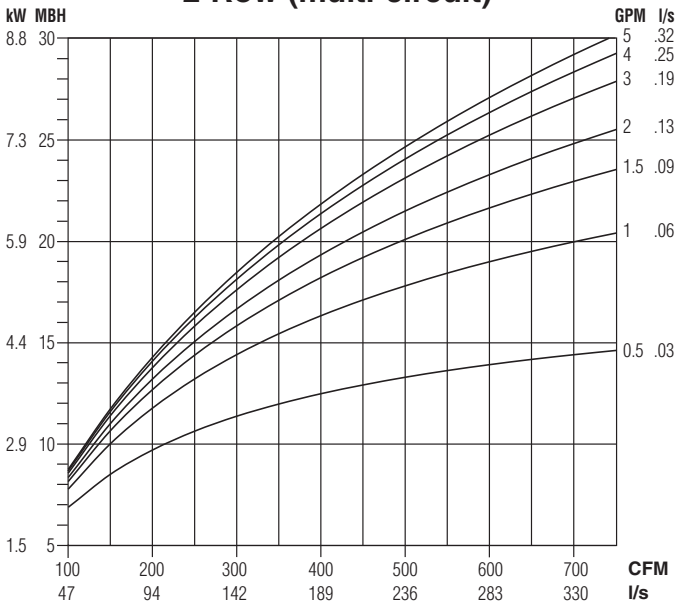
Model: 37NW • Parallel Flow • Low Profile

Unit Size 2

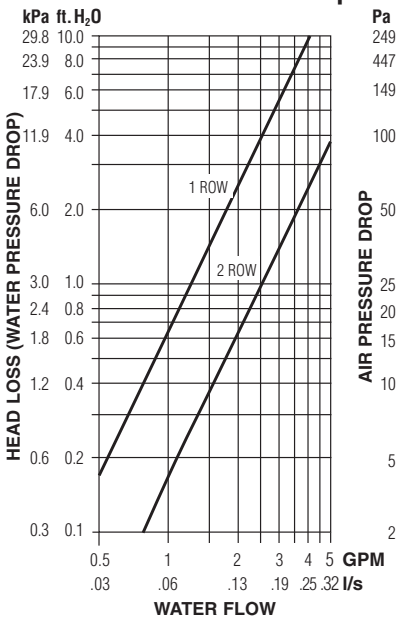
1 Row (single circuit)



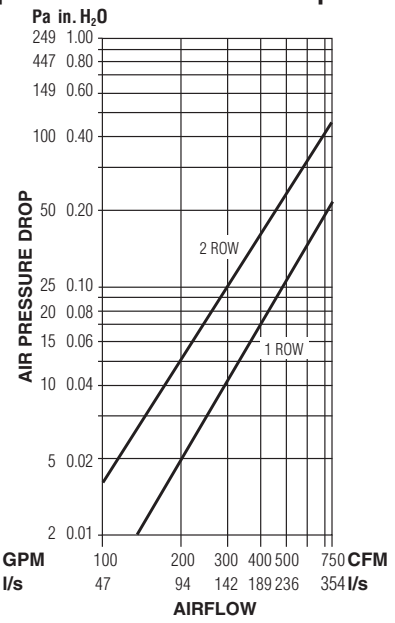
2 Row (multi-circuit)



Water Pressure Drop



Air Pressure Drop



NOTES:

1. Capacities are in MBH (kW)*.
   *Thousands of Btu per hour (kilo Watts).
2. MBH (kW) values are based on a Δt (temperature difference) of 110°F (61°C) between entering air and entering water. For other Δt's; multiply the MBH (kW) values by the factors below.
3. Air Temperature Rise.
   ATR (°F) = 927 x $\frac{MBH}{cfm}$, ATR (°C) = 829 x $\frac{kW}{l/s}$
4. Water Temp. Drop.
   WTD (°F) = 2.04 x $\frac{MBH}{GPM}$, WTD (°C) = .224 x $\frac{kW}{l/s}$
5. Connections: 1 Row 1/2" (13), 2 Row 7/8" (22); O.D. male solder.

Altitude Correction Factors:

Altitude ft. (m)	Sensible Heat Factor
0 (0)	1.00
2000 (610)	0.94
3000 (914)	0.90
4000 (1219)	0.87
5000 (1524)	0.84
6000 (1829)	0.81
7000 (2134)	0.78

Correction factors at other entering conditions:

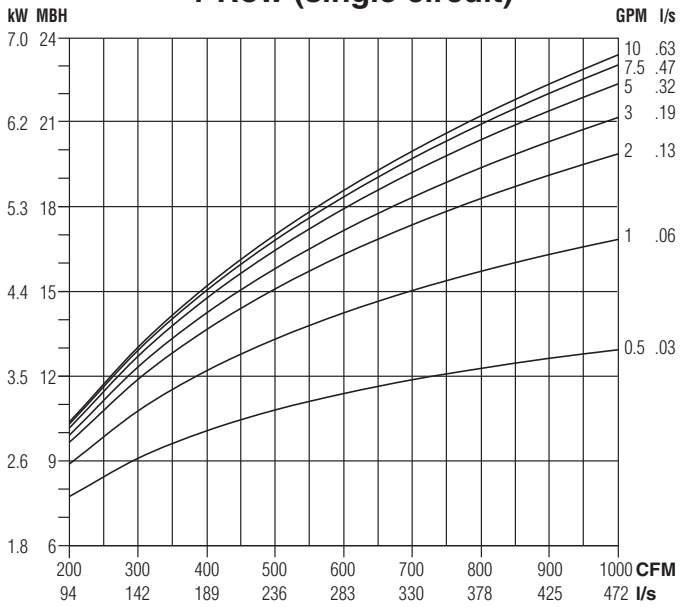
Δt °F (°C)	50 (28)	60 (33)	70 (39)	80 (44)	90 (50)	100 (56)	110 (61)	120 (67)	130 (72)	140 (78)	150 (83)
Factor	.455 (.459)	.545 (.541)	.636 (.639)	.727 (.721)	.818 (.820)	.909 (.918)	1.00 (1.00)	1.09 (1.10)	1.18 (1.18)	1.27 (1.28)	1.36 (1.36)

Performance Data • Hot Water Coil

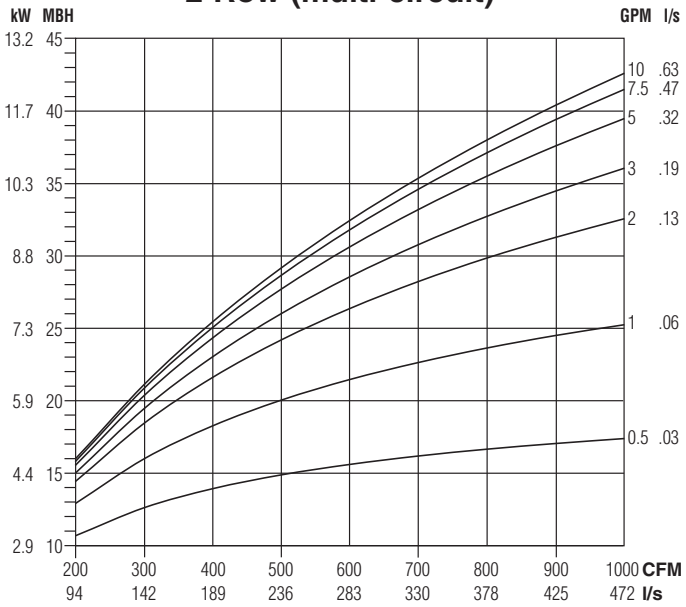
Model: 37NW • Parallel Flow • Low Profile

Unit Size 3

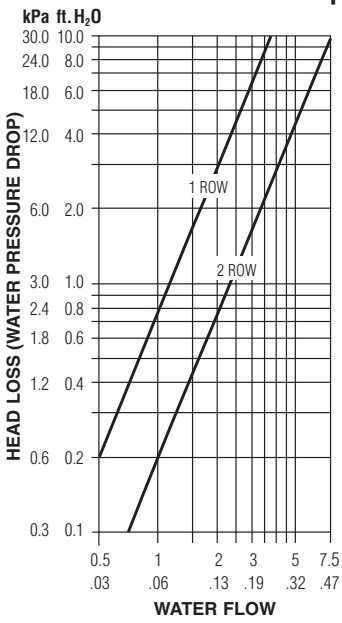
1 Row (single circuit)



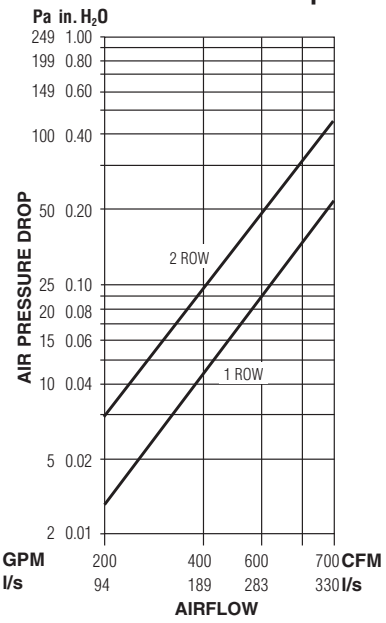
2 Row (multi-circuit)



Water Pressure Drop



Air Pressure Drop



NOTES:

1. Capacities are in MBH (kW)*.
   *Thousands of Btu per hour (kilo Watts).
2. MBH (kW) values are based on a Δt (temperature difference) of 110°F (61°C) between entering air and entering water. For other Δt's; multiply the MBH (kW) values by the factors below.
3. Air Temperature Rise.
   ATR (°F) = 927 x $\frac{MBH}{cfm}$, ATR (°C) = 829 x $\frac{kW}{l/s}$
4. Water Temp. Drop.
   WTD (°F) = 2.04 x $\frac{MBH}{GPM}$, WTD (°C) = .224 x $\frac{kW}{l/s}$
5. Connections: 1 Row 1/2" (13), 2 Row 7/8" (22); O.D. male solder.

Altitude Correction Factors:

Altitude ft. (m)	Sensible Heat Factor
0 (0)	1.00
2000 (610)	0.94
3000 (914)	0.90
4000 (1219)	0.87
5000 (1524)	0.84
6000 (1829)	0.81
7000 (2134)	0.78

Correction factors at other entering conditions:

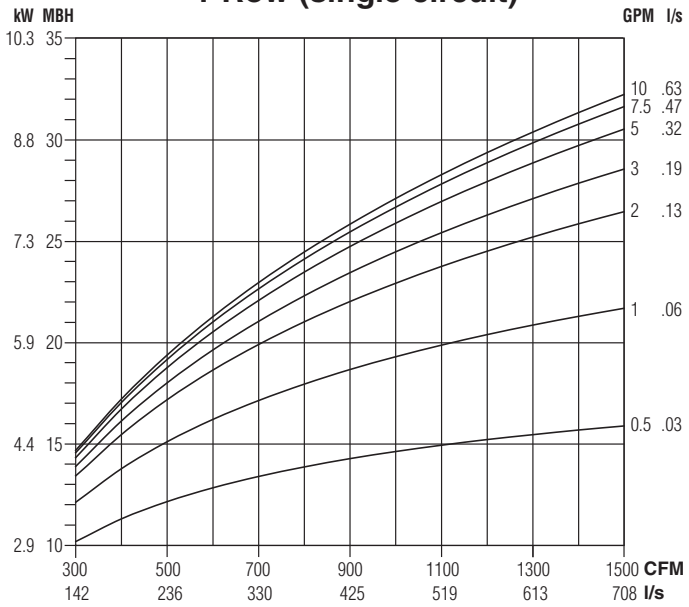
Δt °F (°C)	50 (28)	60 (33)	70 (39)	80 (44)	90 (50)	100 (56)	110 (61)	120 (67)	130 (72)	140 (78)	150 (83)
Factor	.455 (.459)	.545 (.541)	.636 (.639)	.727 (.721)	.818 (.820)	.909 (.918)	1.00 (1.00)	1.09 (1.10)	1.18 (1.18)	1.27 (1.28)	1.36 (1.36)

Performance Data • Hot Water Coil

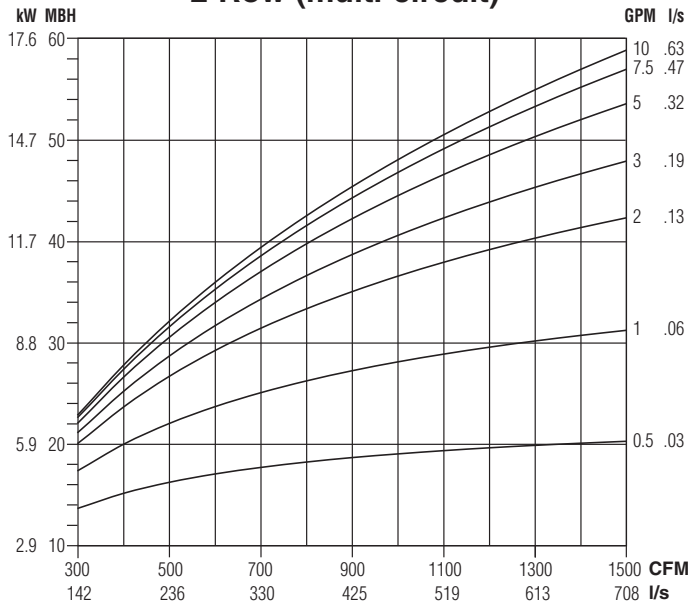
Model: 37NW • Parallel Flow • Low Profile

Unit Size 4

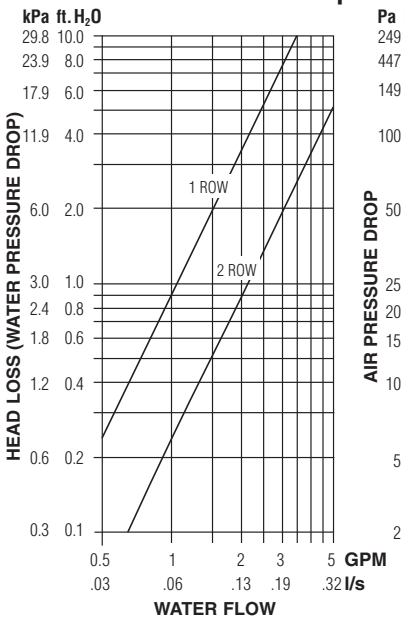
1 Row (single circuit)



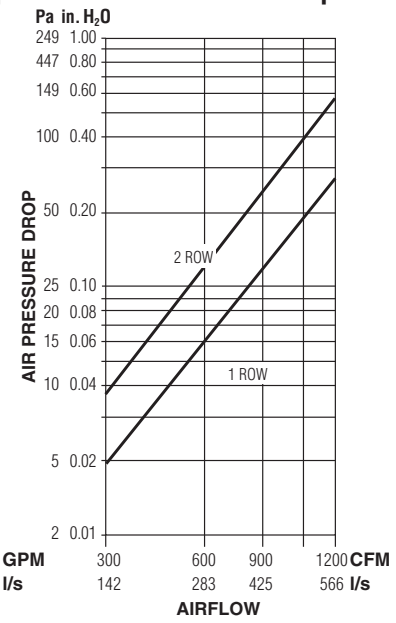
2 Row (multi-circuit)



Water Pressure Drop



Air Pressure Drop



NOTES:

1. Capacities are in MBH (kW)*.
   *Thousands of Btu per hour (kilo Watts).
2. MBH (kW) values are based on a Δt (temperature difference) of 110°F (61°C) between entering air and entering water. For other Δt's; multiply the MBH (kW) values by the factors below.
3. Air Temperature Rise.
   ATR (°F) = 927 x $\frac{MBH}{cfm}$, ATR (°C) = 829 x $\frac{kW}{l/s}$
4. Water Temp. Drop.
   WTD (°F) = 2.04 x $\frac{MBH}{GPM}$, WTD (°C) = .224 x $\frac{kW}{l/s}$
5. Connections: 1 Row 1/2" (13), 2 Row 7/8" (22); O.D. male solder.

Altitude Correction Factors:

Altitude ft. (m)	Sensible Heat Factor
0 (0)	1.00
2000 (610)	0.94
3000 (914)	0.90
4000 (1219)	0.87
5000 (1524)	0.84
6000 (1829)	0.81
7000 (2134)	0.78

Correction factors at other entering conditions:

Δt °F (°C)	50 (28)	60 (33)	70 (39)	80 (44)	90 (50)	100 (56)	110 (61)	120 (67)	130 (72)	140 (78)	150 (83)
Factor	.455 (.459)	.545 (.541)	.636 (.639)	.727 (.721)	.818 (.820)	.909 (.918)	1.00 (1.00)	1.09 (1.10)	1.18 (1.18)	1.27 (1.28)	1.36 (1.36)

Suggested Specifications

Parallel Flow (Variable Volume) Fan Powered Terminals – 37N Low Profile Series

1. Furnish and install **Nailor Model Series 37N Low Profile Variable Volume Parallel Fan Powered Terminal Units** of the sizes and capacities as indicated on the drawings. Units shall be pressure independent with (pneumatic, analog electronic, digital) controls.
2. The entire terminal unit shall be designed and built as a single unit. The units shall be provided with a primary variable air volume damper that controls the air quantity in response to a (thermostat or digital controller/zone sensor). The units shall also include a fan that sequences on and off in response to the (thermostat or digital controller/zone sensor). The space limitations shall be reviewed carefully to ensure that all units will fit into the space allowed.
3. Unit casings shall be 20 ga. (1.00) galvanized steel. Unit shall be fully lined with fiberglass insulation which shall be 1/2" (13) thick dual density insulation complying with NFPA 90 for fire and smoke resistivity and UL 181 for erosion. Any cut edges of insulation shall be coated with NFPA 90 approved sealant.
4. The terminal casing shall have full size bottom access panels for easy access to motor and blower assembly and for maintenance and replacement of parts without disturbing duct connections. Access panels shall be attached to casing with (screws, 1/4 turn fasteners).
5. Units shall have round or rectangular inlets for the primary air connections and shall have a minimum 6" (152) deep inlet duct collar for field connection. Models with no heat or electric heat shall have rectangular outlets suitable for flanged duct connections. Models with hot water coils shall have an induction inlet designed to accept flanged hot water coils. Duct connection to hot water coil shall be flanged ducts. Casing shall have mounting area for hanging by sheet metal straps from a concrete slab.
6. The damper shall be round or rectangular and constructed of laminated 20 ga. (1.00) galvanized steel with a peripheral gasket and a solid steel 1/2" (13) diameter shaft, pivoted in self-lubricating bronze oilite bearings. Damper leakage shall not exceed 2% of the terminal rated airflow at 3" w.g. (746 Pa) inlet static pressure.
7. Entire terminal unit shall be factory assembled with (pneumatic, analog electronic) controls. All components including all controls except the room (thermostat or zone sensor) and (pneumatic piping, field wiring) shall be factory installed and mounted with the unit. Digital controls shall be supplied by BAS controls contractor. Digital controls are optionally factory mounted and wired.
8. Provide a (pneumatic, analog electronic, digital) flow control device that will limit the maximum and minimum airflow to that scheduled on the drawings. Control of the terminal unit shall be pressure independent.
9. (The sequence of operation should be described here, if not part of the temperature controls specifications).
10. Blower casings shall be constructed of heavy gauge coated steel. Blower wheel shall be forward curved centrifugal type, dynamically balanced and driven by direct drive, single speed split capacitor motor(s). Motor(s) shall be suitable for 120 or 208 or 240 or 277 volt single phase power. Motors shall have built-in overload protection, bearings capable of low speed oiling, permanently oiled bearings and be of an anti-backward rotation design. Fan assembly shall be mounted so as to isolate the casing from the motor and blower vibration at no less than four points. Isolation shall be supplied at the motor and at the blower mounting points. A gasketed backdraft damper shall be included on the fan discharge to reduce primary air leakage back into the plenum space.
11. A solid state SCR fan speed controller sized and designed for the specific blower motor combination shall be provided to allow infinitely adjustable fan speed from the minimum voltage stop to the line voltage signal to the motor. A minimum voltage stop shall be employed to ensure that fan cannot run in stall mode.
12. Units shall incorporate a single point electrical and/or pneumatic connection for the entire unit. All electrical components shall be ETL listed or recognized and installed in accordance with the National Electrical Code. All electrical components shall be mounted in a control box. The entire assembly shall be ETL listed and labeled to meet UL 1995 and CSA C22.2 No. 236.
13. All sound data shall be compiled in an independent laboratory and in accordance with the latest version of AHRI 880. All units shall be AHRI certified and bear the AHRI certification label.
14. Unit maximum radiated and discharge sound power levels with fan only and 0.25" w.g. (63 Pa) discharge static pressure shall not exceed the values in Tables 1 and 2 at the specified airflow. No credit or reduction shall in any way be considered for room, plenum, ceiling, downstream duct, elbows and/or similar item effects.

Unit Size	Airflow		Sound Power Octave Band Center Frequency (Hz.)					
	cfm	l/s	2	3	4	5	6	7
			125	250	500	1000	2000	4000
2	550	260	65	58	56	50	46	38
3	700	330	68	60	60	55	47	38
4	825	389	69	61	61	56	47	39

Table 1. Maximum Radiated Sound Power Levels. Heating Cycle (Fan only).

Unit Size	Airflow		Sound Power Octave Band Center Frequency (Hz.)					
	cfm	l/s	2	3	4	5	6	7
			125	250	500	1000	2000	4000
2	550	260	57	56	55	50	41	43
3	700	330	65	58	59	54	47	50
4	825	389	65	58	61	56	49	50

Table 2. Maximum Discharge Sound Power Levels. Heating Cycle (Fan only).

15. Unit maximum radiated and discharge sound power levels with 100% primary air and fan off at 1.0" w.g. (249 Pa) inlet pressure and 0.25" w.g. (63 Pa) discharge static pressure shall not exceed the values in Table 3 and 4 at the specified airflow. No credit or reduction shall in any way be considered for room, plenum, ceiling, downstream duct, elbows and/or similar item effects.

Unit/ Inlet Size	Airflow		Sound Power Octave Band Center Frequency (Hz.)					
	cfm	l/s	2	3	4	5	6	7
			125	250	500	1000	2000	4000
2 – 08	700	330	71	59	50	43	40	32
3 – 10	1100	519	69	61	54	46	39	35
4 – 14 x 08	1600	755	70	59	53	48	44	41

Table 3. Maximum Radiated Sound Power Levels. Cooling Cycle (100% primary air and fan off).

Unit/ Inlet Size	Airflow		Sound Power Octave Band Center Frequency (Hz.)					
	cfm	l/s	2	3	4	5	6	7
			125	250	500	1000	2000	4000
2 – 08	700	330	61	61	57	53	41	36
3 – 10	1100	519	69	66	62	55	47	41
4 – 14 x 08	1600	755	70	66	64	56	49	49

Table 4. Maximum Discharge Sound Power Levels. Cooling Cycle (100% primary air and fan off).

Suggested Specifications

Parallel Flow (Variable Volume) Fan Powered Terminals – 37N Series (continued)

OPTIONS

Electric Heat:

Model: 37NE

Staged

(Substitute the following paragraphs:)

1. Furnish and install **Nailor Model Series 37NE Low Profile Variable Volume Parallel Fan Powered Terminal Units** with integral electric heat of the sizes and capacities as indicated on the drawings. Units shall be pressure independent with (pneumatic, analog electronic, digital) controls.

12. An electric heater shall be factory mounted and pre-wired as an integral package with the fan powered terminal unit. Heaters shall be sized as shown on the drawings. The entire assembly including the electric heater shall be ETL listed for zero clearance and so labeled and shall meet all requirements of the latest National Electrical Code, (CSA C22.2 No.236). The unit shall have a single point electrical and/or pneumatic connection (dual point electrical on 600V). Heater casing and panel shall be a minimum of 20 ga. (1.00) galvanized steel. Each heater shall be complete with automatic reset high limit thermal cut-outs, control voltage transformer as required, ground terminal, fan relay for interlocking the heater and fan and high grade nickel chrome alloy wire.

Element wires shall be supported by ceramic isolators. Each heater shall be supplied with factory supplied and pre-wired branch circuit fusing as required by NEC and UL. Circuiting and fusing shall also be in accordance with the circuiting requirements as shown on the plans.

Additional accessories shall include (control transformer, circuit fusing, disconnect switch, pneumatic electric switches) for staging the heater.

Proportional Heat (SCR)

(Substitute the following paragraphs:)

1. Furnish and install **Nailor Model Series 37NE Low Profile Variable Volume Parallel Fan Powered Terminal Units** with integral electric heat of the sizes and capacities as indicated on the drawings. Units shall be pressure independent with (pneumatic, analog electronic, digital) controls.

12. An electric heater shall be factory mounted and pre-wired as an integral package with the fan powered terminal unit. Heaters shall be sized as shown on the drawings. The entire assembly including the electric heater shall be ETL listed for zero clearance and so labeled and shall meet all requirements of the latest National Electrical Code, (CSA C22.2 No.236). The unit shall have a single point electrical and/or pneumatic connection (dual point electrical on 600V). Heater casing and panel shall be a minimum of 20 ga. (1.00) galvanized steel. Each heater shall be complete with automatic reset high limit thermal cut-outs, control voltage transformer as required, ground terminal, fan relay for interlocking the heater and fan and high grade nickel chrome alloy wire.

Element wires shall be supported by ceramic isolators. Each heater shall be supplied with factory supplied and pre-wired branch circuit fusing as required by NEC and UL. Circuiting and fusing shall also be in accordance with the circuiting requirements as shown on the plans.

Additional accessories shall include (control transformer, circuit fusing, disconnect switch, pneumatic electric switches) for heater control.

Heater shall be capable of providing proportional control of heater capacity from an input signal of 4 – 20ma, 2 –10 VDC or 0 –10 VDC. The SCR controller shall provide a 1 – 24 VDC pulsed output to SSR(s) [solid state relay(s)] in proportion to zone heating demand. The SSR's shall switch with zero cross over to reduce system noise and thermal shock on heater coils.

Proportional Heat with Discharge Temperature Control (DTC)

(Substitute the following paragraphs:)

1. Furnish and install **Nailor Model Series 37NE Low Profile Variable Volume Parallel Fan Powered Terminal Units** with integral electric heat of the sizes and capacities as indicated on the drawings. Units shall be pressure independent with (pneumatic, analog electronic, digital) controls.

12. An electric heater shall be factory mounted and pre-wired as an integral package with the fan powered terminal unit. Heaters shall be sized as shown on the drawings. The entire assembly including the electric heater shall be ETL listed for zero clearance and so labeled and shall meet all requirements of the latest National Electrical Code, (CSA C22.2 No.236). The unit shall have a single point electrical and/or pneumatic connection (dual point electrical on 600V). Heater casing and panel shall be a minimum of 20 ga. (1.00) galvanized steel. Each heater shall be complete with automatic reset high limit thermal cut-outs, control voltage transformer as required, ground terminal, fan relay for interlocking the heater and fan and high grade nickel chrome alloy wire.

Element wires shall be supported by ceramic isolators. Each heater shall be supplied with factory supplied and pre-wired branch circuit fusing as required by NEC and UL. Circuiting and fusing shall also be in accordance with the circuiting requirements as shown on the plans.

Additional accessories shall include (control transformer, circuit fusing, disconnect switch, pneumatic electric switches) for heater control.

The SCR controller shall contain a discharge temperature sensor capable of limiting leaving air temperature to a user defined setpoint. The SCR controller shall pulse the coil to maintain zone demand while providing the set maximum discharge air temperature. Upon measuring a discharge air temperature above the user defined setpoint, the controller shall reduce heater capacity to maintain maximum allowable discharge air temperature. The discharge air temperature setpoint shall be adjustable from 80 – 100°F (27 – 149°C) by use of a controller mounted potentiometer.

Hot Water Heating Coils:

Model: 37NW

(Substitute the following paragraphs:)

1. Furnish and install **Nailor Model Series 37NW Low Profile Variable Volume Parallel Fan Powered Terminal Units** with integral hot water coils of the sizes and capacities as indicated on the drawings. Units shall be pressure independent with (pneumatic, analog electronic, digital) controls.

12. A hot water coil shall be factory mounted as an integral package with the fan powered terminal unit. Hot water coils shall be sized as shown on the drawings. The entire assembly including the hot water coil shall be ETL listed, labeled and shall meet all requirements of the latest National Electrical Code (CSA C22.2 No.236). The unit shall have a single point electrical and/or pneumatic connection. Access panels on the bottom of the unit shall permit easy access to the coil for inspection and cleaning. Coils shall be 1 or 2 row as required and heating capacities shall be as shown on the plans. Coils shall have aluminum plate fins spaced 10 per inch and bonded to 1/2" (13) O.D. copper tubes. Copper connections

Suggested Specifications

Parallel Flow (Variable Volume) Fan Powered Terminals – 37N Series (continued)

shall be sweat. All coils shall be tested at a minimum of 350 psi (2.4 MPa) under water to produce a guaranteed working pressure of 300 psi (2.1 MPa). Controls and valves for the hot water coils shall be field mounted. Heating coils shall be located on the induction side of the fan.

Liner:

Steri-Liner

(Substitute the following paragraph:)

3. Unit casings shall be 20 ga. (1.00) galvanized steel. Unit shall be fully lined with non-porous, sealed liner which complies with NFPA 90A and UL 181. Installation shall be 1/2" (13) minimum thickness, 4 lb./cu. ft. (64 kg/m^3) density with reinforced aluminum foil-scrim-kraft (FSK) facing. All cut edges shall be secured with steel angles or end caps to encapsulate edges and prevent erosion. Insulation shall be Nailor Steri-Liner or equal.

Fiber-Free Liner

(Substitute the following paragraph:)

3. Unit casings shall be 20 ga. (1.00) galvanized steel. Unit shall be fully lined with a non-porous closed cell elastomeric foam liner which complies with NFPA 90A, ASTM E84 and UL 181. Installation shall be 3/8" (10) minimum thickness and secured to the interior of the terminal with mechanical fasteners. No fiberglass is permitted. Insulation shall be Nailor Fiber-Free Liner or equal.

Motor:

ECM

(Substitute the following paragraph:)

10. Blower casings shall be constructed of heavy gauge coated steel. Blower wheel shall be forward curved centrifugal type, dynamically balanced and driven by Electronically Commutated Motor(s). Motor(s) shall be suitable for 120 or 208 or 240 or 277 volt single phase power. Fan airflow volume shall be factory set. Fan assembly shall be mounted so as to isolate the casing from the motor and blower vibration at no less than four points. Isolation shall be supplied at the motor and at the blower mounting points. A gasketed backdraft damper shall be included on the fan discharge to reduce primary air leakage back into the plenum space.