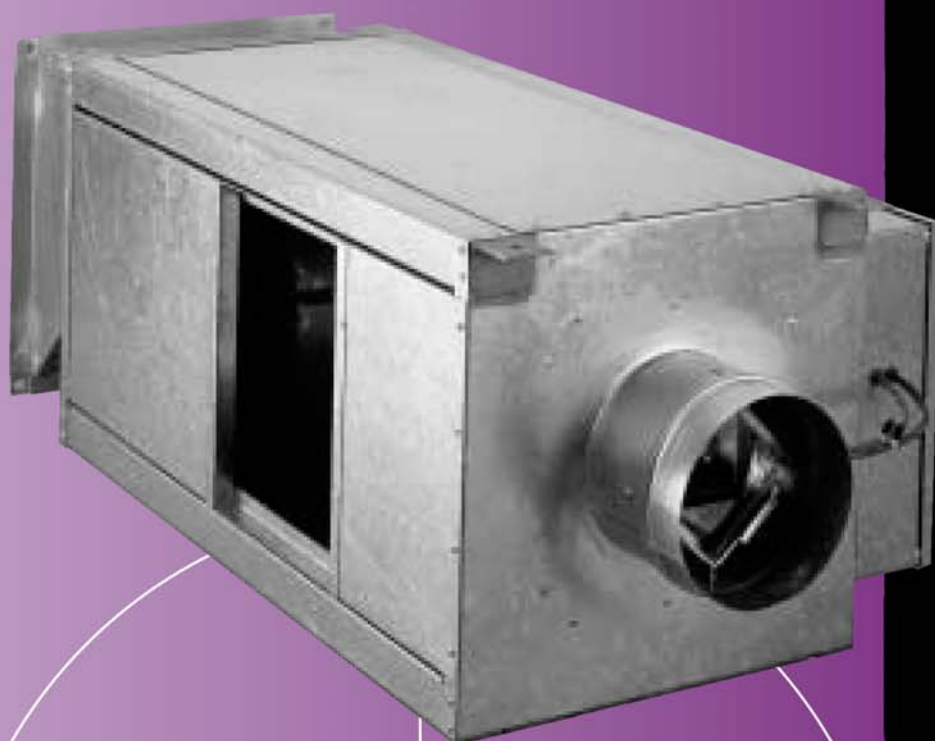


Advanced Air 



35S SERIES
FAN POWERED
TERMINALS

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Series Flow Constant Volume Model 35S - Quiet Operation

Models:

- 35S** Cooling Only
- 35SE** Electric Heat
- 35SW** Hot Water Heat



The **Model 35S** provides many standard design features and superior sound performance when compared with other basic model designs. The **35S** offers a compact and economical design well suited to the majority of applications.

Features:

- Unique 18 swg (1.2mm thick) galvanised steel channel space frame construction provides extreme rigidity and 18 swg casing components.
- 1.2mm thick galvanised steel inclined opposed blade primary air damper operating on a 45° arc.
- Unique perforated baffle on primary air discharge optimises mixing with induced air for rapid and effective temperature equalisation. The baffle also converts low frequency primary air damper generated sound into more readily attenuated higher frequencies.
- Pressure independent primary airflow control.
- Multi-point averaging flow sensor.
- Terminal may be field installed either way up, providing the additional flexibility of right or left field connections.
- Access panels on three sides of terminal for ease of maintenance and service to motor and fan from below or from the side of unit.
- Energy saving Nailor EPIC fan technology
- Motor fan assembly mounted on special 1.6 mm thick angles and isolated from casing with rubber isolators.
- Removable door on controls enclosure
- Acoustic/thermal lining - the terminal is internally lined with a 25mm thick acoustic/thermally insulating foam which is Melamine based open cellular construction, having a non-woven black tissue facing and complying with class O fire rating. This material is adhered to all internal surfaces and inside box/channel sections.
- Available with electric or hot water supplementary heat.
- All controls are mounted on exterior of terminal providing ready access for field adjustment.
- Each terminal factory tested prior to shipment.
- Single point electrical connections.
- Discharge opening designed for flanged duct connection.



QUALITY SYSTEM CERT. NO. FM1714
ASSESSED TO BS EN ISO 9002



Controls

- Analogue electronic controls. Factory supplied, mounted and calibrated.
- Digital controls. Factory mounting and wiring of DDC controls supplied by BMS Controls Manufacturers.

Options & Accessories

- Induced air filter
- Fan disconnect switch (except units with electric heat, when disconnect is an electric heat option and includes fan).
- Melinex liner
- Solid metal inner liner.
- Perforated metal liner.
- Fan airflow switch for night shutdown (analogue electronic controls).
- Night setback fan/heat cycle (analogue).
- Fan mounted total air sensor.
- Induced air attenuator.
- Top entry induced air inlet

Recommended Primary Airflow Ranges for Fan Powered Terminal Units



The recommended airflow ranges below are for terminal units with pressure independent controls. For a given unit size, the minimum and the maximum flow settings must be within the range limits to ensure pressure independent operation, accuracy and repeatability. For these reasons, factory settings will not be made outside these ranges. A minimum setting of zero (shut-off) is also available.

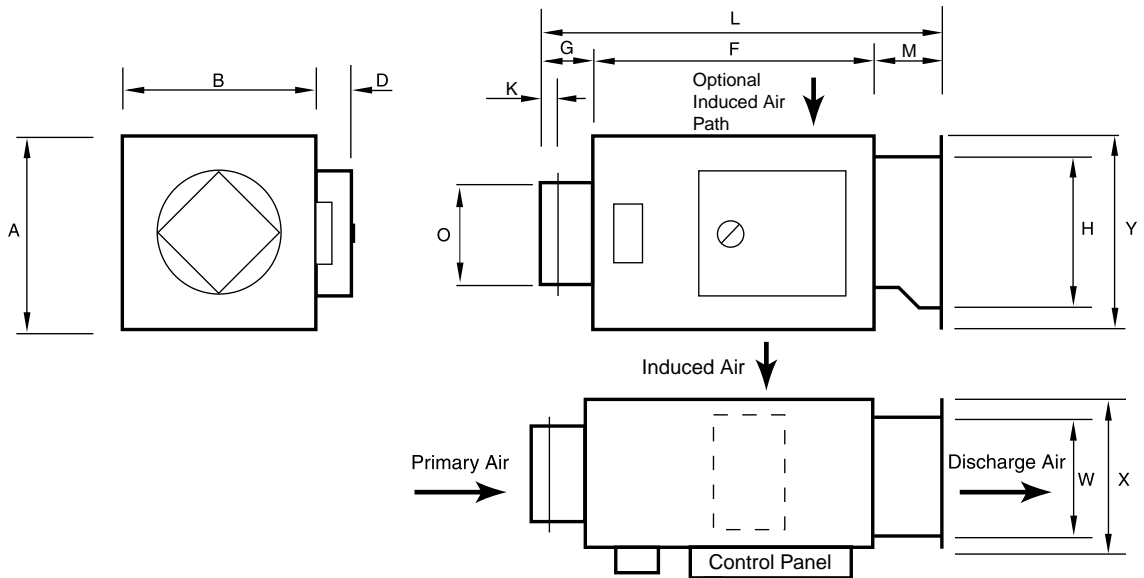
When digital or other controls are factory mounted, but supplied by others, these values are guidelines only, based upon experience with the majority of controls currently available. Controls supplied by others for factory mounting are configured and calibrated in the field.

For a detailed analysis of fan powered terminal selection procedures with working examples, consult the engineering section of this catalogue

Air Volume Range

Unit Size	Inlet Spigot dia mm	Min l/s	Max l/s
3	150	0	236
3	200	0	330
3	250	0	520
5	250	0	520
5	315	0	750
5	355	0	900
7	400	0	1400
7	450	0	1700

Model 35 S - Series Flow - Size 3



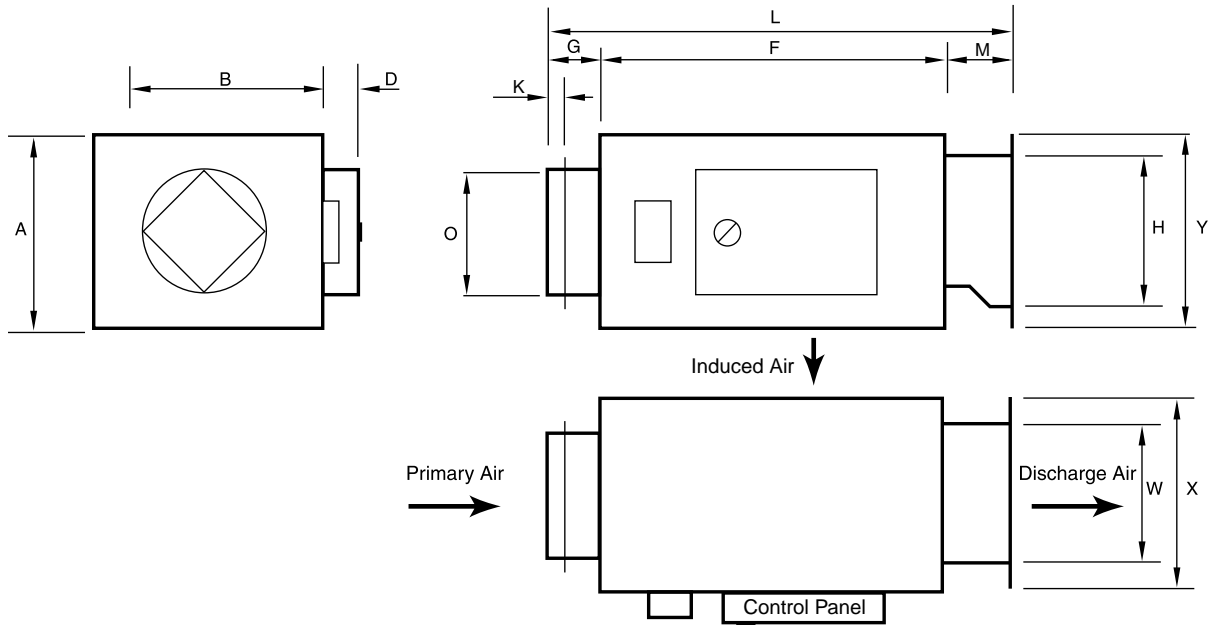
Model 35 S Size 3 Terminal Dimensions

Terminal Size	O mm	A mm	B mm	D mm	F mm	G mm	K mm	M mm	L mm	W mm	H mm	X mm	Y mm	Wgt kg
3-150	146	470	470	100	914	150	40	175	1238	400	400	460	460	70.0
3-200	196	470	470	100	914	150	40	175	1238	400	400	460	460	70.0
3-250	246	470	470	100	914	150	40	175	1238	400	400	460	460	70.0

'Q' Option - Induced Air Inlet Attenuator

This acoustically lined accessory is designed to deflect radiated sound upward and away from the ceiling, eliminating any direct sound path from the terminal to the occupied space. Radiated sound is diffused within the ceiling cavity and the decay that occurs as a result due to the ceiling plenum effect allows up to an additional 5 dB to be taken from radiated sound power levels. A minimum clearance of 150mm must be provided above the unit, so that induced airflow is not impeded.

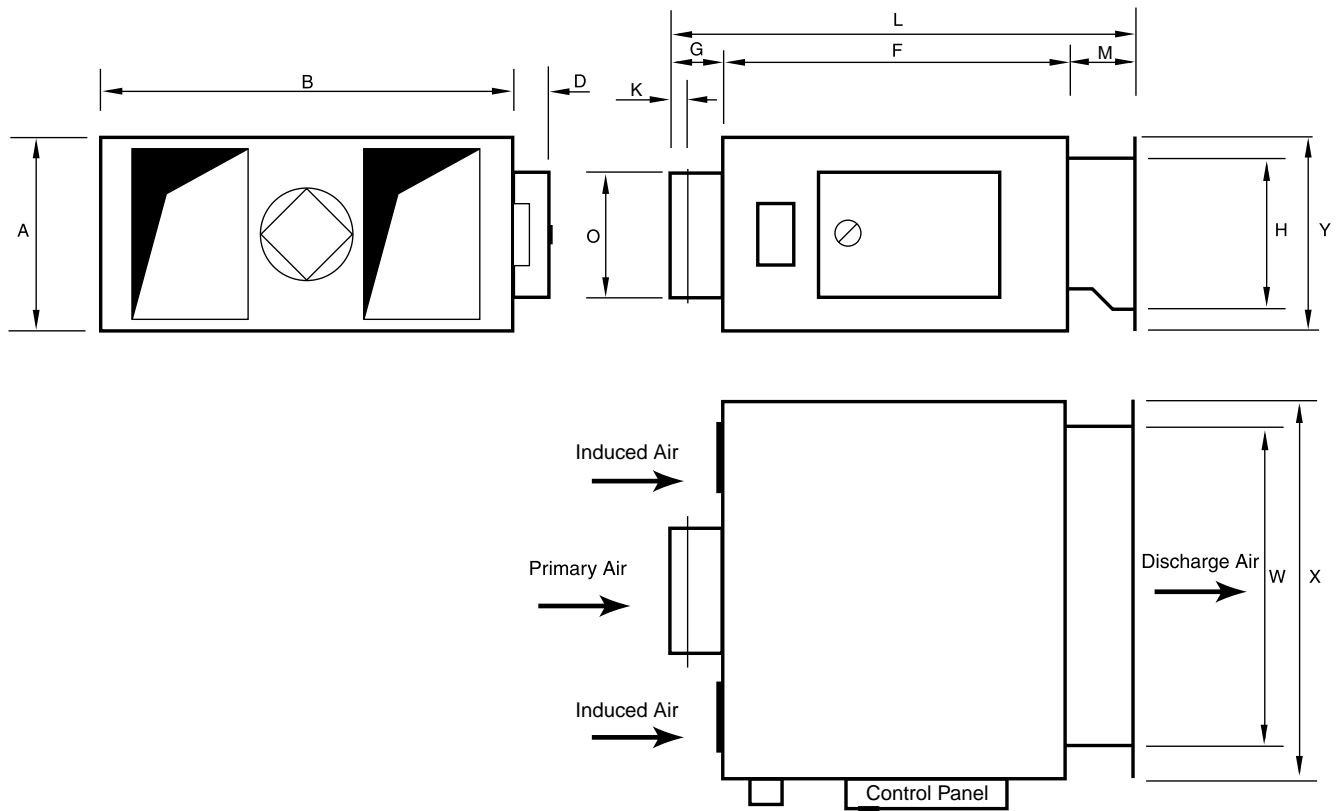
Model 35 S - Series Flow - Size 5



Model 35 S Size 5 Terminal Dimensions

Terminal Size	O mm	A mm	B mm	D mm	F mm	G mm	K mm	M mm	L mm	W mm	H mm	X mm	Y mm	Wgt kg
5-250	246	470	670	100	1050	150	40	175	1375	600	400	660	460	82.5
5-315	311	470	670	100	1050	150	40	175	1375	600	400	660	460	82.5
5-355	351	470	670	100	1050	150	40	175	1375	600	400	660	460	82.5

Model 35 S - Series Flow - Size 7



Model 35 S Size 7 Terminal Dimensions

Terminal Size	O mm	A mm	B mm	D mm	F mm	G mm	K mm	M mm	L mm	W mm	H mm	X mm	Y mm	Wgt kg
7-400	396	470	1321	100	1050	150	40	175	1375	1200	400	1260	460	165.0
7-450	513x352	470	1321	100	1050	150	40	175	1375	1200	400	1260	460	165.0

Model 35S • Series Flow • Acoustic Data

Radiated NC Levels

Terminal Size	Air Flow l/s	Min. inlet ΔPs Pa	NC Levels @ Inlet Pressure (DPs) shown					
			Fan Only	Minimum ΔPs	125 Pa.	250Pa.	375 Pa.	500Pa.
3-200	330	12	21	21	24	31	35	38
3-200	283	12	21	21	23	29	33	36
3-200	212	12	-	-	21	27	32	33
3-250	519	12	27	27	29	33	36	40
3-250	425	12	25	24	26	32	35	38
3-250	330	12	-	-	22	28	34	37
3-250	212	12	-	-	-	24	32	34
5-315	755	12	36	34	35	36	40	43
5-315	661	12	34	30	33	35	40	42
5-315	566	12	31	28	28	34	34	41
5-315	495	12	28	24	26	33	36	40
5-400	909	12	38	36	38	39	42	45
5-400	802	12	34	31	35	37	41	43
5-400	661	12	31	30	31	35	40	42
5-400	496	12	28	21	26	34	36	41
7-400	1440	45	45	42	44	44	49	52
7-400	1274	35	42	39	41	42	45	47
7-400	1080	25	40	36	35	39	42	45
7-400	944	17	36	32	34	37	40	44
7-450	1723	12	46	45	46	47	49	51
7-450	1534	12	43	41	44	45	46	48
7-450	1227	12	40	38	40	41	42	45
7-450	944	12	36	30	34	36	38	40

Performance Notes

1. Application data is based on procedures and factors found in the ARI Standard 885-98; 'Procedure for estimating occupied space sound levels in the application of air terminal units and outlets'.
2. Min. inlet ΔPs is the minimum operating pressure of the primary air damper.
3. Dash (-) in space denotes an NC level of less than 20.
4. Discharge (external) static pressure is 63 Pa in all cases.

Performance Data Series Flow (Constant Volume) Radiated Sound Power Levels

Terminal Size	Air Flow l/s	Min. inlet ΔPs Pa	Fan and 100% Primary Air- Sound Power Octave Bands @ Inlet Pressure Shown																																			
			Fan Only			Min. ΔPs OBCF -Hz.			125 Pa. ΔPs OBCF -Hz.			250Pa ΔPs OBCF -Hz.			375Pa ΔPs OBCF -Hz.			500Pa ΔPs OBCF -Hz.																				
			125	250	500	1k	2k	4k	125	250	500	1k	2k	4k	125	250	500	1k	2k	4k	125	250	500	1k	2k	4k												
3-200	330	12	62	52	52	46	43	39	63	53	52	46	44	39	65	56	54	52	52	50	66	59	57	55	58	59	68	61	60	58	61	64	69	65	62	60	64	67
	283	12	61	51	51	44	42	37	61	52	51	45	41	37	63	55	53	50	52	50	65	58	56	54	58	58	66	61	59	57	61	63	67	63	60	59	63	65
	212	12	55	43	49	40	37	31	57	48	48	40	36	30	59	51	50	48	49	48	60	54	53	51	55	54	63	57	56	56	60	60	63	59	58	58	61	61
3-250	519	12	68	59	57	52	51	47	67	60	57	52	51	47	69	62	59	56	57	55	71	65	61	58	61	61	72	65	64	61	64	65	68	68	65	63	66	68
	425	12	66	55	54	49	46	42	64	56	54	48	46	42	66	58	56	53	54	52	68	60	59	56	60	60	70	64	62	60	63	64	68	66	63	61	65	67
	330	12	60	52	51	44	41	36	58	51	50	43	40	36	61	55	53	50	51	48	64	59	56	54	57	57	65	60	59	57	61	62	66	62	60	59	64	66
5-315	755	12	75	66	58	53	51	48	73	65	58	52	50	48	74	69	64	59	62	64	74	69	64	59	62	64	75	70	67	63	64	68	76	73	69	65	66	71
	661	12	73	62	55	50	47	44	70	61	55	48	46	44	72	65	60	54	56	55	73	67	63	58	61	63	73	70	66	61	64	68	74	72	68	64	65	70
	566	12	71	60	53	47	45	41	68	58	52	46	43	40	67	62	57	52	55	54	70	65	61	58	60	62	71	67	64	60	63	66	72	70	66	62	64	69
5-355	909	12	76	71	61	57	56	53	75	69	62	58	55	53	76	71	64	59	61	61	77	72	66	61	64	66	77	73	67	63	66	70	78	75	69	65	67	73
	802	12	73	67	59	54	52	50	72	65	59	53	51	49	74	68	61	56	59	59	75	70	64	59	63	66	75	71	65	61	64	69	76	72	67	63	66	71
	661	12	71	64	56	50	48	46	69	61	55	49	46	44	71	65	58	54	57	57	72	67	61	57	62	64	73	67	63	59	64	68	73	70	64	61	65	70
7-400	1440	12	78	69	61	56	54	51	76	68	61	55	53	51	77	70	66	59	61	60	77	72	67	62	65	67	81	76	73	69	70	74	82	79	75	71	72	77
	1274	12	76	65	58	53	50	47	73	64	58	51	49	47	75	68	63	57	59	58	76	70	66	61	64	66	78	73	69	64	67	71	77	75	71	67	68	73
	1080	12	74	63	56	50	48	44	71	61	55	49	46	43	70	65	60	55	58	57	73	68	64	61	63	65	74	70	67	63	66	69	75	73	69	65	67	72
7-450	1723	12	79	74	64	60	59	56	78	72	65	61	58	56	79	74	67	62	64	64	80	75	69	64	67	69	80	76	70	66	69	73	81	78	72	68	70	76
	1534	12	76	70	62	57	55	53	75	68	62	56	54	52	77	71	64	59	62	62	78	73	67	62	66	69	78	74	68	64	67	72	79	75	70	65	69	74
	1227	12	74	67	59	53	51	49	72	64	58	52	49	47	74	68	61	57	60	60	75	70	64	60	65	67	76	70	66	62	68	71	76	73	67	64	68	73
944	12	71	60	53	47	44	40	66	58	53	46	43	40	69	62	56	53	58	56	71	65	60	57	63	64	72	67	62	59	65	68	72	69	65	62	67	72	

1. Discharge (external) static pressure is 63 Pa in all cases. It is the difference (ΔPs) in static pressure from terminal discharge to the room.
2. Radiated sound power is the breakout noise transmitted through the unit casing walls and induction port.
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.
5. Min. inlet ΔPs is the minimum operating pressure of the primary air damper section.
6. Data derived from independent tests conducted in accordance with ANSI/ASHRAE Std. 130-1996 and ARI Standard 880-98.

Model 35S • Series Flow • Acoustic Data

Discharge NC Levels

Terminal Size	Air Flow l/s	Min. inlet ΔPs Pa	NC Levels @ Inlet Pressure (DPs) shown					
			Fan Only	Minimum DPs	125 Pa.	250Pa.	375 Pa.	500Pa.
3-200	330	12	-	-	-	-	-	-
3-200	283	12	-	-	-	-	-	-
3-200	212	12	-	-	-	-	-	-
3-250	519	12	-	-	-	-	-	-
3-250	425	12	-	-	-	-	-	-
3-250	330	12	-	-	-	-	-	-
3-250	212	12	-	-	-	-	-	-
5-315	755	12	-	-	-	-	-	-
5-315	661	12	-	-	-	-	-	-
5-315	566	12	-	-	-	-	-	-
5-315	495	12	-	-	-	-	-	-
5-355	909	12	22	22	23	24	24	24
5-355	802	12	20	-	20	20	20	20
5-355	661	12	-	-	-	-	-	-
5-355	496	12	-	-	-	-	-	-
7-400	1440	45	31	29	31	33	31	32
7-400	1274	35	28	27	28	28	29	29
7-400	1080	25	25	25	25	25	25	26
7-400	944	17	20	20	20	20	20	22
7-450	1723	12	36	36	36	37	37	33
7-450	1534	12	34	32	34	34	34	34
7-450	1227	12	29	27	28	28	28	29
7-450	944	12	20	20	21	20	20	22

Performance Notes

1. Application data is based on procedures and factors found in the ARI Standard 885-98; 'Procedure for estimating occupied space sound levels in the application of air terminal units and outlets'.
2. Min. inlet ΔPs is the minimum operating pressure of the primary air damper.
3. Dash (-) in space denotes an NC level of less than 20.
4. Discharge (external) static pressure is 63 Pa in all cases.

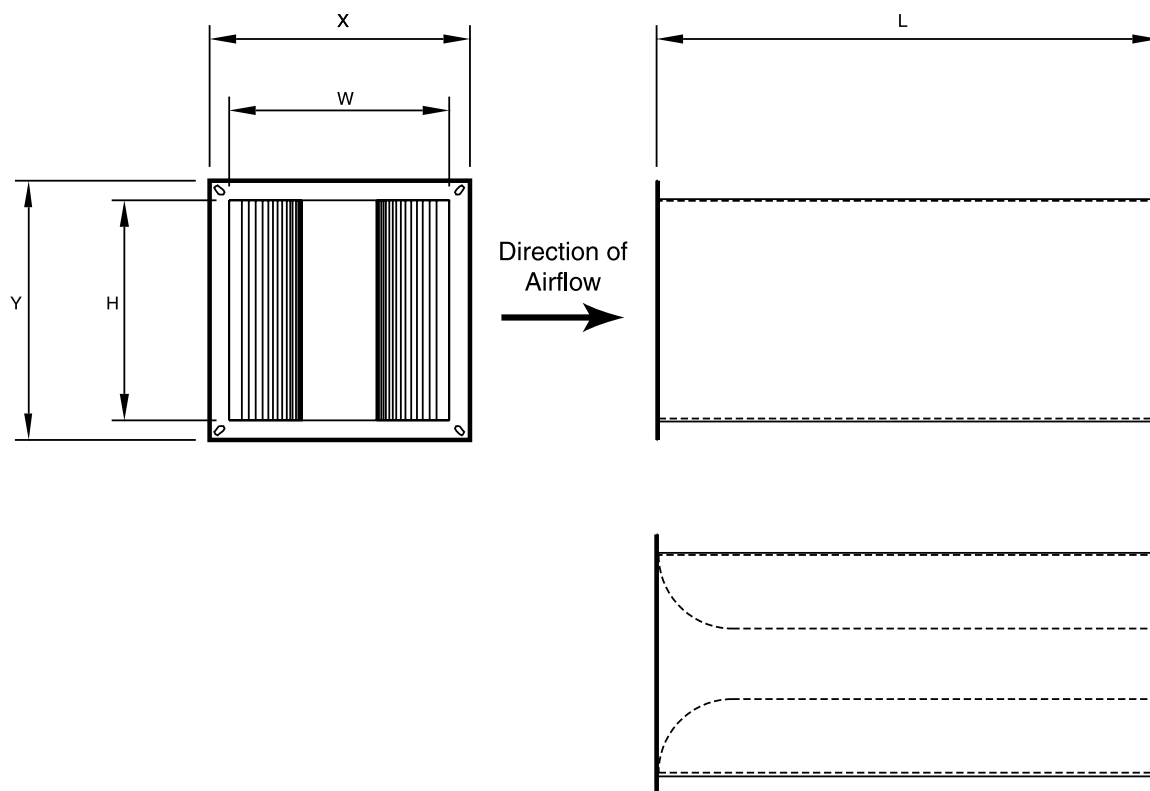
Performance Data Series Flow (Constant Volume) Discharge Sound Power Levels

Terminal Size	Air Flow l/s	Min. inlet ΔPs Pa	Fan and 100% Primary Air- Sound Power Octave Bands @ Inlet Pressure Shown																																			
			Fan Only						125 Pa. ΔPs OBCF -Hz.						250Pa ΔPs OBCF -Hz.						375Pa ΔPs OBCF -Hz.						500Pa ΔPs OBCF -Hz.											
			125	250	500	1k	2k	4k	125	250	500	1k	2k	4k	125	250	500	1k	2k	4k	125	250	500	1k	2k	4k	125	250	500	1k	2k	4k						
3-200	330	12	56	56	59	56	52	48	57	56	59	55	51	48	58	58	60	56	52	48	59	59	60	56	52	48	61	61	60	56	52	48	61	61	61	58	52	48
	283	12	56	55	58	55	51	46	56	55	58	54	50	45	57	57	59	55	51	46	58	58	59	55	51	46	59	58	59	55	51	46	59	60	59	55	49	46
	212	12	55	52	54	50	46	38	55	52	54	50	45	37	56	53	55	50	45	38	57	54	55	50	45	38	57	55	55	49	44	38	57	55	55	49	44	38
3-250	519	12	62	64	68	65	62	61	61	64	68	64	61	60	65	67	68	64	63	61	66	67	69	66	64	62	67	67	69	67	64	62	68	68	69	67	64	62
	425	12	60	61	64	61	58	56	59	61	63	60	57	55	61	63	65	62	59	56	63	64	65	63	60	57	64	64	65	63	60	58	64	65	65	63	60	58
	330	12	57	58	59	55	5	48	57	58	58	55	51	48	59	59	60	57	53	49	60	60	60	57	54	50	61	61	60	57	53	50	61	61	60	57	53	50
3-250	212	12	57	56	54	50	46	38	56	56	54	50	45	38	57	56	55	51	46	39	58	57	55	50	46	39	58	57	55	50	46	39	59	57	55	50	45	40
	755	12	67	68	69	69	66	65	67	67	68	67	64	63	69	69	69	68	65	65	70	70	69	68	65	65	70	70	69	68	65	65	71	70	69	68	64	64
	661	12	66	66	67	66	63	62	64	64	65	64	61	61	67	66	66	64	62	62	68	67	66	65	62	62	68	67	66	65	62	62	69	67	67	65	62	61
5-315	566	12	62	62	63	62	59	58	60	61	62	60	57	57	63	63	62	61	58	58	64	63	63	61	58	57	65	62	63	61	57	57	66	65	63	61	57	57
	495	12	60	59	59	58	55	53	58	58	59	57	53	53	60	59	59	58	54	53	62	60	59	57	54	53	63	61	60	57	54	53	64	62	60	57	54	53
	909	12	73	74	73	74	71	70	73	74	73	73	70	70	73	74	74	73	70	70	74	75	74	73	71	70	74	75	74	73	71	70	75	75	74	73	70	70
5-355	802	12	71	71	70	70	67	67	69	69	70	69	66	66	71	71	71	70	67	66	72	71	71	70	67	66	72	71	70	69	66	66	72	71	70	69	66	66
	661	12	67	67	67	67	63	63	64	64	66	62	61	61	67	67	66	65	62	62	68	66	66	65	62	62	68	65	66	65	61	61	68	67	66	65	61	62
	496	12	60	60	61	60	56	54	59	59	59	58	54	53	60	60	60	58	55	54	61	60	60	58	54	54	63	61	60	58	54	54	64	62	60	58	55	54
7-400	1440	12	70	71	72	72	69	68	70	70	71	70	67	68	72	72	72	71	68	68	73	73	72	71	68	68	74	72	72	71	68	68	74	73	72	71	67	67
	1274	12	69	69	70	69	66	65	67	67	68	67	64	64	70	69	69	67	65	65	71	70	69	68	65	65	71	70	69	67	64	64	72	70	70	68	65	64
	1080	12	65	65	66	65	62	61	63	64	65	63	60	60	66	66	65	64	61	61	67	66	66	64	61	60	67	66	66	64	61	60	69	68	66	64	60	60
7-450	948	12	63	62	62	61	58	56	61	61	62	60	56	56	63	62	62	61	57	56	65	63	62	60	57	56	65	63	62	60	57	56	65	63	62	60	57	56
	1723	12	76	77	76	77	74	73	76	77	76	76	73	73	76	77	77	76	73	73	77	78	77	76	74	73	77	78	77	76	74	73	78	78	77	76	73	73
	1534	12	74	74	73	73	70	70	72	72	73	72	69	69	74	74	74	73	70	69	75	74	74	73	70	69	75	74	74	7	70	69	75	74	73	72	69	69
7-450	1227	12	70	70	70	70	66	66	67	67	69	65	64	64	70	70	69	68	65	65	71	69	69	68	65	65	71	69	69	68	65	65	71	70	69	68	64	65
	944	12	63	63	64	63	59	57	62	62	62	61	57	56	63	63	63	61	58	57	64	63	63	61	57	57	64	63	63	61	57	57	67	65	63	61	58	57

1. Discharge (external) static pressure is 63 Pa in all cases. It is the difference (ΔPs) in static pressure from terminal discharge to the room.
2. Radiated sound power is the breakout noise transmitted through the unit casing walls and induction port.
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.
5. Min. inlet ΔPs is the minimum operating pressure of the primary air damper section.
6. Data derived from independent tests conducted in accordance with ANSI/ASHRAE Std. 130-1996 and ARI Standard 880-98.

Secondary Attenuators-Dimensions

Model 35SFB



Terminal Size	W mm	H mm	X mm	Y mm	L mm	Wgt kg
3-150	400	400	460	460	600	21.00
3-150	400	400	460	460	900	28.00
3-150	400	400	460	460	1200	35.00
3-200	400	400	460	460	600	21.00
3-200	400	400	460	460	900	28.00
3-200	400	400	460	460	1200	35.00
3-250	400	400	460	460	600	21.00
3-250	400	400	460	460	900	28.00
3-250	400	400	460	460	1200	35.00
5-250	600	400	660	460	600	28.00
5-250	600	400	660	460	900	36.00
5-250	600	400	660	460	1200	44.00
5-315	600	400	660	460	600	28.00
5-315	600	400	660	460	900	36.00
5-315	600	400	660	460	1200	44.00
5-355	600	400	660	460	600	28.00
5-355	600	400	660	460	900	36.00
5-355	600	400	660	460	1200	44.00
7-400	1200	400	1260	460	600	45.00
7-400	1200	400	1260	460	900	59.00
7-400	1200	400	1260	460	1200	73.00
7-450	1200	400	1260	460	600	45.00
7-450	1200	400	1260	460	900	59.00
7-450	1200	400	1260	460	1200	73.00

Secondary Attenuators

All Nailor terminal units are available with attached secondary attenuators

Casing:

Manufactured from 18 swg. (1.2mm thick) folded galvanised mild steel sheet, formed into a rectangular casing, all longitudinal casing joints are mechanically sealed.

Flanges:

Intake and discharges incorporate rectangular flanges, which are mechanically fixed to the main body of the attenuator.

Splitters:

Arranged within the casing are vertical attenuating splitter sections manufactured from 21 swg. (0.8mm thick) galvanised mild steel, fixed to the casing by rivets. Splitters are fitted at inlet and discharge with aerodynamically shaped bullnose fairings. Splitters are fitted with 22 swg. (0.7mm thick) expanded or perforated metal facings. Horizontal splitters are also available if required.

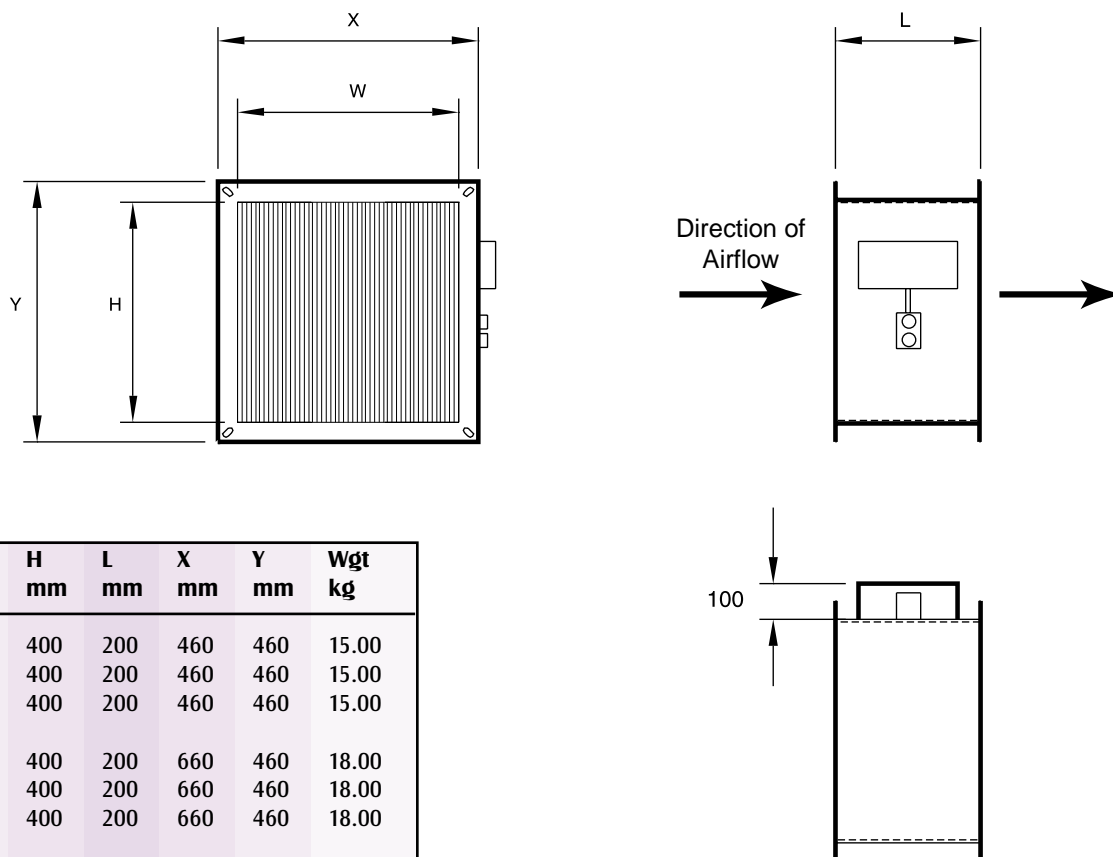
Acoustic infill:

Splitters and side linings are filled with an inert, non combustible, non hygroscopic, vermin and rot proof mineral fibre slab which will not support bacterial growth. Usually faced with a glass fibre tissue (FB), however hermetically sealed Melinex membrane bags (FG) are available wherever indoor air quality conditions demand.

**Acoustic Performance Data - Secondary Attenuator Static Insertion Loss dB
Model 35S FB**

Terminal size	Air vol. l/s.	Air vol. m ³ /h	Press. drop Pa.	width mm.	height mm.	length mm.	O.B.C.F.-Hz					
							125	250	500	1k	2k	4k
3-150	24	324	neg.	400	400	600	6	8	15	18	13	9
3-150	236	1872	15	400	400	600	6	8	15	18	13	9
3-150	24	324	neg.	400	400	900	9	12	20	25	19	12
3-150	236	1872	15	400	400	900	9	12	20	25	19	12
3-150	24	324	neg.	400	400	1200	11	16	30	36	25	15
3-150	236	1872	20	400	400	1200	11	16	30	36	25	15
3-200	30	324	neg.	400	400	600	6	8	15	18	13	9
3-200	330	1872	15	400	400	600	6	8	15	18	13	9
3-200	30	324	neg.	400	400	900	9	12	20	25	19	12
3-200	330	1872	15	400	400	900	9	12	20	25	19	12
3-200	30	324	neg.	400	400	1200	11	16	30	36	25	15
3-200	330	1872	20	400	400	1200	11	16	30	36	25	15
3-250	50	324	neg.	400	400	600	6	8	15	18	13	9
3-250	520	1872	15	400	400	600	6	8	15	18	13	9
3-250	50	324	neg.	400	400	900	9	12	20	25	19	12
3-250	520	1872	15	400	400	900	9	12	20	25	19	12
3-250	50	324	neg.	400	400	1200	11	16	30	36	25	15
3-250	520	1872	20	400	400	1200	11	16	30	36	25	15
5-250	60	216	neg.	600	400	600	1	3	5	6	5	2
5-250	640	2304	60	600	400	600	1	3	5	6	5	2
5-250	60	216	neg.	600	400	900	2	5	8	10	7	3
5-250	640	2304	60	600	400	900	2	5	8	10	7	3
5-250	60	216	neg.	600	400	1200	3	6	10	13	9	4
5-250	640	2304	65	600	400	1200	3	6	10	13	9	4
5-315	75	270	neg.	600	400	600	1	3	5	6	5	2
5-315	750	2700	60	600	400	600	1	3	5	6	5	2
5-315	75	270	neg.	600	400	900	2	5	8	10	7	3
5-315	750	2700	60	600	400	900	2	5	8	10	7	3
5-315	75	270	neg.	600	400	1200	3	6	10	13	9	4
5-315	750	2700	65	600	400	1200	3	6	10	13	9	4
5-355	105	378	neg.	600	400	600	1	3	5	6	5	2
5-355	900	3240	60	600	400	600	1	3	5	6	5	2
5-355	105	378	neg.	600	400	900	2	5	8	10	7	3
5-355	900	3240	60	600	400	900	2	5	8	10	7	3
5-355	105	378	neg.	600	400	1200	3	6	10	13	9	4
5-355	900	3240	65	600	400	1200	3	6	10	13	9	4
7-400	130	468	1	1200	400	600	9	14	19	32	31	23
7-400	1400	5040	37	1200	400	600	9	14	19	32	31	23
7-400	130	468	1	1200	400	900	12	18	25	42	41	29
7-400	1400	5040	43	1200	400	900	12	18	25	42	41	29
7-400	130	468	1	1200	400	1200	14	22	31	50	50	35
7-400	1400	5040	45	1200	400	1200	14	22	31	50	50	35
7-450	150	540	3	1200	400	600	9	14	19	32	31	23
7-450	1700	6120	40	1200	400	600	9	14	19	32	31	23
7-450	150	540	3	1200	400	900	12	18	25	42	41	29
7-450	1700	6120	43	1200	400	900	12	18	25	42	41	29
7-450	150	540	3	1200	400	1200	14	22	31	50	50	35
7-450	1700	6120	47	1200	400	1200	14	22	31	50	50	35

Low Pressure Hot Water Supplementary Heater Batteries - Dimensions - Model 35SW



Terminal Size	W mm	H mm	L mm	X mm	Y mm	Wgt kg
3-150	400	400	200	460	460	15.00
3-200	400	400	200	460	460	15.00
3-250	400	400	200	460	460	15.00
5-250	600	400	200	660	460	18.00
5-315	600	400	200	660	460	18.00
5-355	600	400	200	660	460	18.00
7-400	1200	400	200	1260	460	25.00
7-450	1200	400	200	1260	460	25.00

All terminal units are available with factory installed low pressure hot water re-heat/supplementary heater batteries.

Casing:

Manufactured from 18 swg. (1.2mm thick) folded galvanised mild steel sheet, formed into a rectangular casing, all casing joints are mechanically sealed.

Inlets and outlets incorporate rectangular flanges, which are mechanically fixed to the main body of the casing.

Water Tubes:

Manufactured from 10mm diam. copper tube to BS 1278 table Y.

Pipe Connections:

Plain male ends suitable for solder jointing.

Heat Exchange Fins:

Manufactured from 0.13mm thick rectangular aluminium plates, mechanically bonded to the copper tubes. Fins are spaced at 2.5mm intervals.

All low pressure hot water supplementary heater batteries incorporate an air vent and drain point.

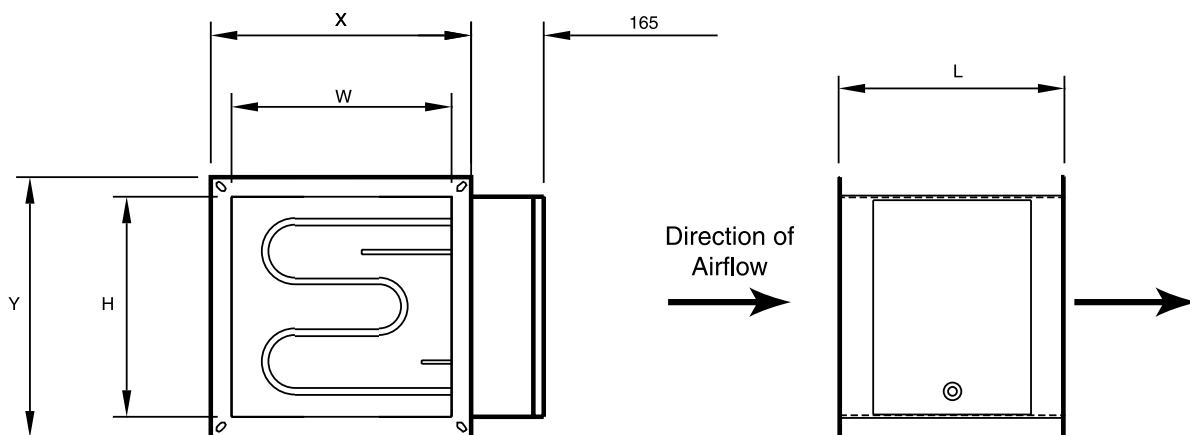
Pressure Testing:

All low pressure hot water supplementary heater batteries are air pressure tested under water to a pressure of 3,000 kPa.

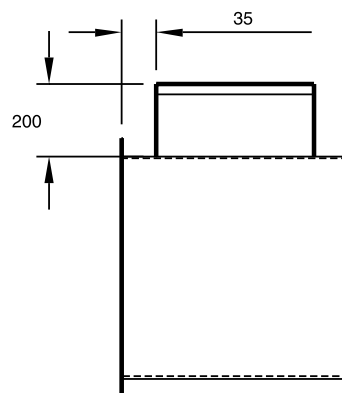
**LPHW Supplementary Heater Battery Performance 82°C Flow, 71°C Return, 10 fpi
Model 35SW**

Terminal Size	Air Vol. l/s	Air Vol. m³/h	Dimensions Width mm	Dimensions Height mm	Face Vel m/s	Air On C	1 Row Duty kW	Air Off C	Water Pd KPa	Water kg/s	Air Pd Pa	2 Row Duty kW	Air Off C	Water Pd kPa	Water kg/s	Air Pd Pa
3-150	95	342	400	400	0.6	13	3.2	41	0.9	69.5	2.4	4.92	56	1.2	106.5	4
3-150	110	396	400	400	0.7	13	3.7	41	1.1	80.5	3.1	5.74	56	1.6	124.2	5
3-150	150	540	400	400	0.9	13	5.0	41	2.0	108.9	5.2	7.86	57	3.0	170.1	9
3-150	185	666	400	400	1.2	13	6.0	40	2.7	129.0	7.4	9.4	55	4.2	203.5	13
3-200	210	756	400	400	1.3	13	6.5	39	3.2	140.5	9.2	10.35	54	5.0	224.0	16
3-200	283	1019	400	400	1.8	13	8.0	37	4.8	174.0	15	13.06	51	7.8	282.7	27
3-200	330	1188	400	400	2.1	13	8.9	35	5.8	193.3	20	14.66	50	9.7	203.5	35
3-250	210	756	400	400	1.3	13	6.5	39	3.2	140.5	9.2	10.35	54	5.0	224.0	16
3-250	330	1188	400	400	2.1	13	8.9	35	5.8	193.3	20	14.66	50	9.7	317.3	35
3-250	425	1530	400	400	2.7	13	10.6	34	8.0	229.7	30	17.70	48	14.0	383.1	53
3-250	520	1872	400	400	3.2	13	12.4	33	10.7	267.7	43	20.80	46	19.0	450.2	75
5-250	210	756	600	400	0.9	13	7.3	42	4.5	157.6	4.6	11.34	58	6.3	245.5	8
5-250	330	1188	600	400	1.4	13	10.4	39	8.7	224.9	9.9	16.57	55	12.9	358.7	17
5-250	425	1530	600	400	1.8	13	11.7	36	5.9	252.4	16	19.01	50	13.4	411.5	27
5-250	520	1872	600	400	2.2	13	13.4	34	7.7	289.4	22	22.08	48	17.8	477.9	37
5-315	495	1782	600	400	2.1	13	13.0	35	7.2	280.1	20	21.30	49	16.6	461.0	32
5-315	565	2034	600	400	2.3	13	14.1	39	8.5	306.3	25	23.45	42	20.0	507.6	43
5-315	660	2376	600	400	2.7	13	15.7	33	6.4	339.8	32	26.30	46	24.9	569.3	57
5-315	750	2700	600	400	3.1	13	17.4	32	12.6	376.4	40	29.25	45	30.5	633.1	70
5-355	495	1782	600	400	2.1	13	13.0	35	7.2	280.1	20	21.30	49	16.6	461.0	32
5-355	660	2376	600	400	2.7	13	15.7	33	6.4	339.8	32	26.30	46	24.9	569.3	57
5-355	800	2880	600	400	3.3	13	18.2	32	13.7	393.9	45	30.72	45	33.5	664.9	78
5-355	910	3276	600	400	3.8	13	19.9	3.1	16.2	429.9	56	33.75	44	40.1	730.5	98
7-400	948	3413	1200	400	2.0	13	26.9	37	10.8	583.3	18	36.93	45	14.8	799.4	32
7-400	1080	3888	1200	400	2.2	13	29.5	36	12.8	638.5	23	40.00	44	17.7	865.8	40
7-400	1274	4586	1200	400	2.6	13	33.0	35	15.9	714.3	30	45.00	42	22.0	974.0	53
7-400	1440	5184	1200	400	3.0	13	36.0	34	18.5	779.2	37	49.00	41	26.0	1060.6	65
7-450	944	3398	1200	400	2.0	13	27.0	37	10.8	584.4	18	36.00	45	19.7	779.2	32
7-450	1227	4417	1200	400	2.6	13	32.0	35	15.0	692.6	28	44.00	43	21.0	952.4	50
7-450	1534	5522	1200	400	3.2	13	38.0	34	21.0	822.5	42	52.00	41	29.0	1125.5	73
7-450	1723	6023	1200	400	3.6	13	41.5	33	24.0	898.3	50	57.00	40	34.0	1233.8	89

Electric Supplementary Heater Batteries- Dimensions
Model 35SE



Terminal Size	W mm	H mm	L mm	X mm	Y mm	Wgt kg
3-150	400	400	370	40	460	11.00
3-200	400	400	370	40	460	11.00
3-250	400	400	370	40	460	11.00
5-250	600	400	370	660	460	15.00
5-315	600	400	370	660	460	15.00
5-355	600	400	370	660	460	15.00
7-400	1200	400	370	1260	460	25.00
7-450	1200	400	370	1260	460	25.00



All Nailor terminal units are available with factory installed electric supplementary heater batteries.

Casing:

Manufactured from 18 swg. (1.2mm thick) folded galvanised mild steel sheet, formed into a rectangular casing, all casing joints are mechanically sealed.

Intake and discharges incorporate rectangular flanges, which are mechanically fixed to the main body of the casing.

Electric Elements:

Manufactured from stainless steel tubing with copper resistance wire and magnesium oxide insulation.

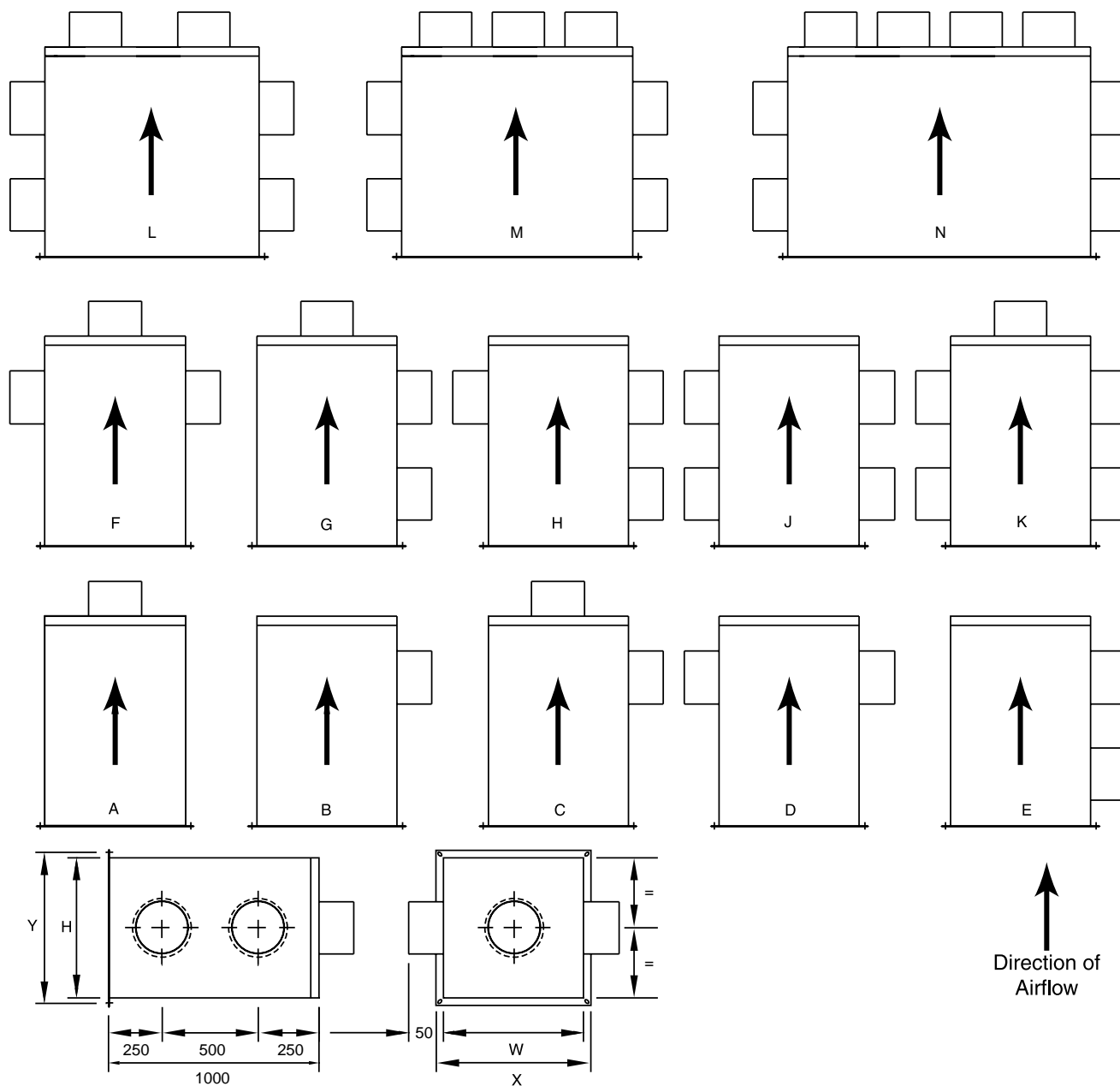
High Temperature Cut-Out:

All electric supplementary heater batteries incorporate automatic and manual high temperature cut-out safety devices, which disconnect the electrical power in the event that the air temperature exceeds a pre set maximum.

Pressure Switch:

All electric supplementary heater batteries incorporate a positive pressure switch which does not permit the heating elements to be energised unless there is positive air pressure (indicating airflow) available.

Multiple Outlet Plenums - Dimensions
Models 35GB and 35GG



Model 35GB - Insulation faced with non woven tissue as standard.

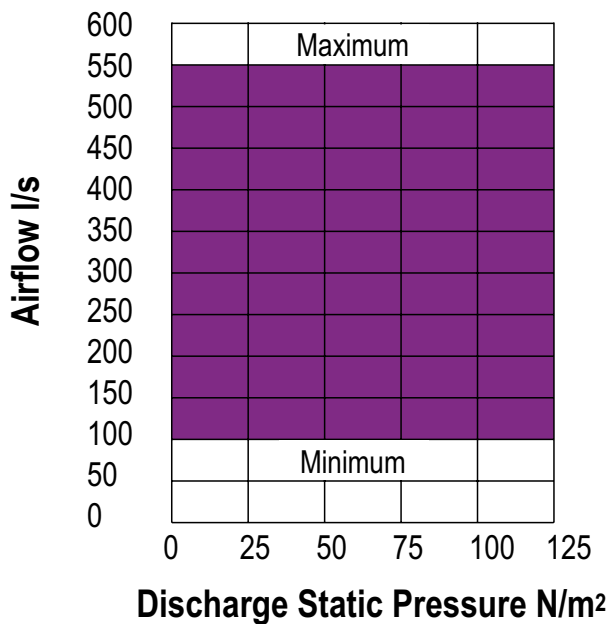
Model 35GG - Insulation covered with hermetically sealed Melinex membrane bags for indoor air quality applications.

Terminal Size	W mm	H mm	X mm	Y mm	Spigot diam mm	Spigot qty	Spigot diam mm	Spigot qty	Spigot diam mm	Spigot qty	Spigot diam mm	Spigot qty	Wgt kg
3-150	400	400	460	460	150	A-K	200	A-K	250	A-K	315	A-K	15.0
3-200	400	400	460	460	150	A-K	200	A-K	250	A-K	315	A-K	15.0
3-250	400	400	460	460	150	A-K	200	A-K	250	A-K	315	A-K	15.0
5-250	600	400	660	460	150	A-L	200	A-L	250	A-K	315	A-K	25.5
5-315	600	400	660	460	150	A-L	200	A-L	250	A-K	315	A-K	25.5
5-355	600	400	660	460	150	A-L	200	A-L	250	A-K	315	A-K	25.5
7-400	1200	400	1260	460	150	A-N	200	A-N	250	A-M	315	A-L	45.0
7-450	1200	400	1260	460	150	A-N	200	A-N	250	A-M	315	A-L	45.0

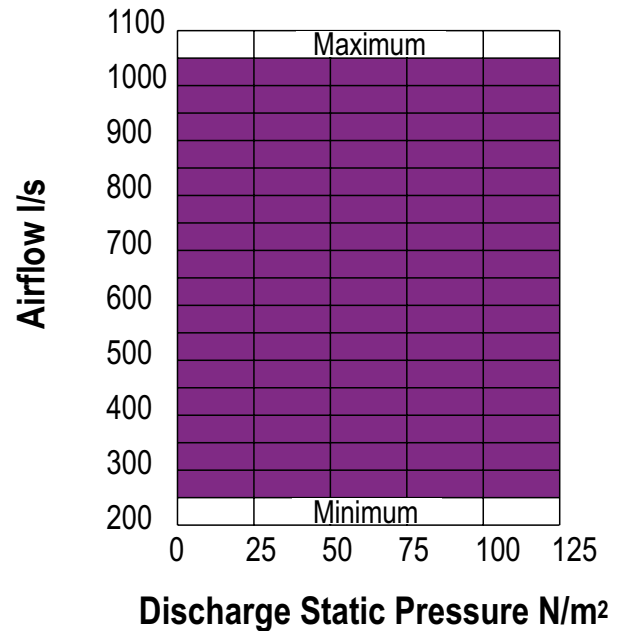
Series Flow ECM Brushless DC Motor Performance Data
Model 35S

Fan Curves - Airflow vs. Downstream Static Pressure

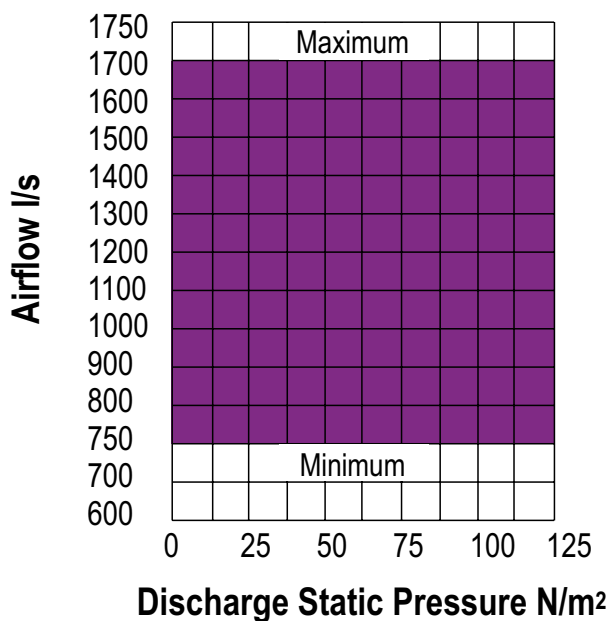
Unit Size 3 (1/2 H.P.)



Unit Size 5 (3/4 H.P.)



Unit Size 7 (2 @ 3/4 H.P.)



Notes

- The fan curves for the ECM motor are unlike those for traditional induction motors. The ECM motor is constant volume and airflow does not vary with changing static pressure conditions. The motor compensates for any changes in external static pressure or varying internal conditions such as filter loading.
- Airflow can be set to operate on a horizontal performance line at any point within the shaded area using the solid state volume controller provided.
- Fan powered terminal units featuring the ECM motor have considerably wider turn-down ratios than conventional induction motors. Hence, only three unit sizes are required in order to provide the same fan airflow range that would require six terminal unit/fan sizes when equipped with induction motors. A reduction in the number of different terminal sizes required on a typical project simplifies design lay-out and installation and reduces inventory of field service parts.
- Fan curves shown are applicable to 230 volt, single phase ECM motors. ECM motors, although DC in operation, include a built-in inverter.

