

NEW TITAN 260
HORIZONTAL CHASSIS FAN COIL UNIT

ABILITY
FAN COIL UNITS

Chassis panelwork is all 'In House' manufactured from nominally 1.2mm Galvanised steel. All flanges are formed inward facing to prevent exposure to bare metal edges. Sufficient forms and folds are incorporated to provide a vibration free, robust structure. The panel work is jointed throughout using 3/16" 'Polygrip' self adjusting 'air tight' rivets.

Access is provided through two main panels. One covers the fan and motor sets, the other the coil and condensate tray. The fan access hooks in place on a front lip and swings closed. This is then retained by machine screws into captive "Nutserts". The coil / condensate tray access is retained by self tapping screws into sprung steel 'U' nuts.

Fans are direct drive, double inlet, forward curved centrifugal type. Both the impellers & impellor housings are of galvanised steel. Fan & motor assemblies are mounted separately to the fan deck assembly using M6 Machine screws into captive "Nutserts" and can be removed individually for non routine servicing or replacement. Each fan is connected to the fan wiring loom by terminal strip. Motor & impellor assemblies are statically and dynamically balanced in twin planes.

Motors are totally enclosed, external rotor, permanent split capacitor type. Power factor shall be 0.9 or better. Bearings are sealed for life ball race type with a manufacturers minimum life expectancy of 50,000 hours under typical operating conditions. Overload protection is afforded to each individual motor by an auto resetting thermal contactor. Motor insulation is to class 'B' with the enclosure to IP44. Supply 230V 1Ph 50Hz.

Speed Control is by multi-tapped transformer. 18 speed outputs are available and 9 selected outputs are wired for on site adjustment. Controls are fed from an additional 50VA 24V output. More detail about our speed control method is given on the last page of this data sheet.

Coils are manufactured from seamless 3/8" copper tube, mechanically expanded onto aluminium fins. Fins are punched with die formed collars to afford maximum heat transfer surface area with the tubes. All coils are circuited contra flow and bottom to top, optimising output and ensuring free venting and draining. Vents and drains are slotted type. Coils are handed left hand or right hand and are not interchangeable. Handings notated against direction of airflow. Coil terminations are 15mm dia' plain copper at 40mm centres through an aluminium support plate for rigidity. Every coil is leak tested using dry air under water to 20 bar. Pressure drop details are given on page 6 of this data sheet. 4 row coils are used to optimise performance. The coil terminations shall be within the profile of the unit to prevent damage.

The Condensate Tray covers the entire coil and valve assembly area and has a positive fall to the 15mm drain point. The pan is manufactured from galvanised steel, corners are brazed and the termination is silver soldered into position. Each pan additionally incorporates a pressure normalising external cover. Stainless steel pans are available as an option. The condensate drain pipe shall be within the profile of the unit to prevent damage.

Insulation is used throughout for both thermal and acoustic damping. Insulation is open cell, class 'O', CFC and HFC free expanded foam. Foam complies with CAA airport and London Borough flammability and toxicity requirements. Adhesive has light, ageing and temperature tolerance.

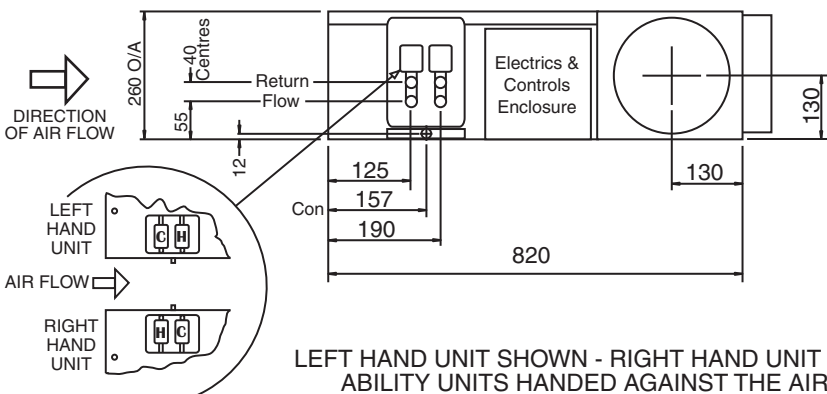
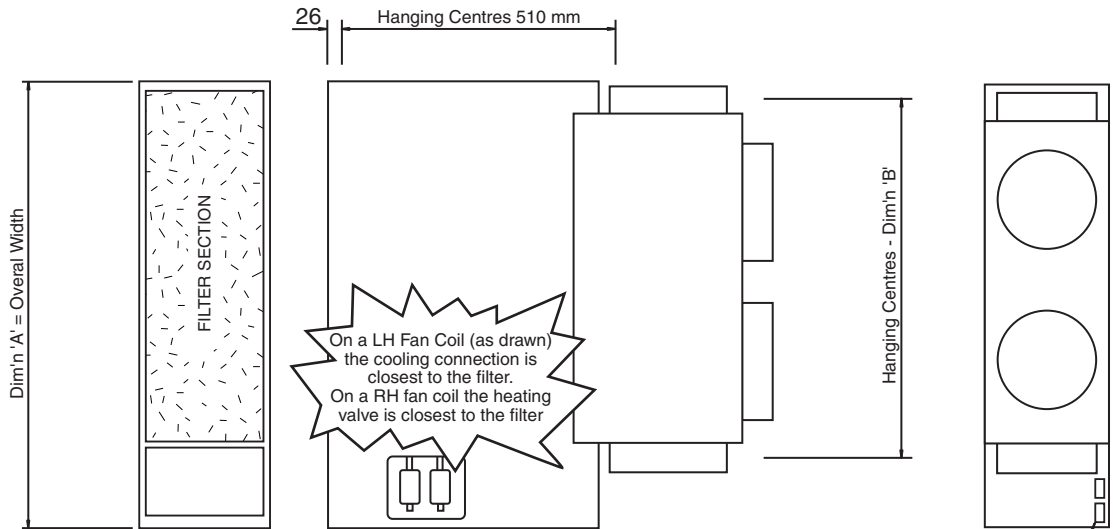
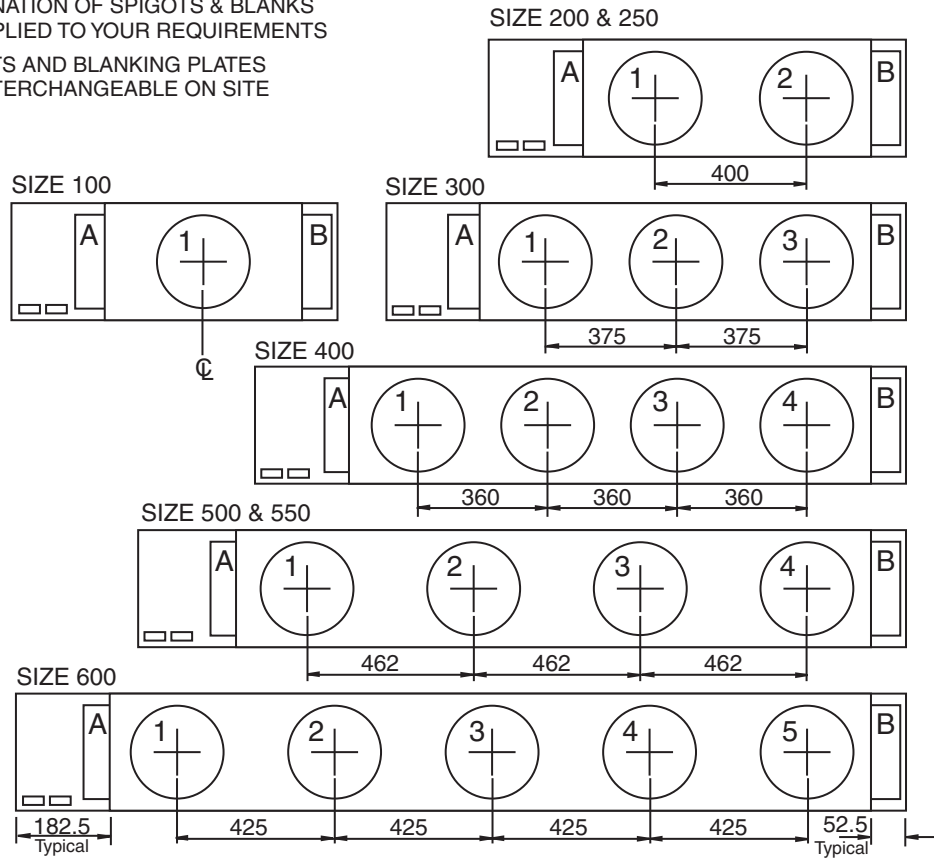
Spigots as standard, are circular 200mm, 225mm or 250mm dia. manufactured from galvanised steel. These are screw fixed to the unit in the positions required. Unused spigot connections are capped off but remain available for use if layout changes occur.

Controls Enclosure All controls are, as standard, fitted to a control back plate which is mounted into the electrical enclosure. The enclosure has dual access from both the side and below. The whole electrical enclosure including all switches shall be within the overall profile of the unit to prevent damage.

Control Valves are modulating 4 port via a stand alone controller. Standard return air sensors are bead type for mounting in the return air path. Room located sensor/set point adjustment/fan speed control is optional. The standard valve assembly (and any free issued valves) should terminate in 15mm or 22mm copper compression fittings at 40mm centres.

Filters are EU2 or EU3 media secured to a wire metal frame, easily removable for routine maintenance, cleaning or replacement. Other types are available.

ANY COMBINATION OF SPIGOTS & BLANKS
WILL BE SUPPLIED TO YOUR REQUIREMENTS
SPIGOTS AND BLANKING PLATES
ARE INTERCHANGEABLE ON SITE



Speed Switches

FCU SIZE	Dim'n 'A'	Dim'n 'B'	WEIGHT Kg
100	755	570	41
200 & 250	1055	870	52 & 56
300	1355	1170	66
400	1655	1470	82
500 & 550	1955	1770	93 & 97
600	2255	2070	105

LEFT HAND UNIT SHOWN - RIGHT HAND UNIT OPPOSITE
ABILITY UNITS HANDED AGAINST THE AIR FLOW

Do Not Scale

DISCHARGE SOUND POWER

ACOUSTICS

Acoustic Selection Guide

The noise figures shown are for a unit operating against 30Pa with sufficient duct connections to keep in duct air velocities at or below 2.5m/s.

As a guide, for each additional 10Pa external resistance the Sound Power figures will increase by 1 to 1.5dB

The inlet Sound Power figures are as measured. Introducing an inlet plenum box will reduce the inlet sound power figures by at least 2-3dB.

The discharge figures have been factored to allow for ductwork, a plenum and grille. Please refer to the bottom of this column for the factors used.

Reducing the lowest fan speed using the fine trimming device will lower the Ultra Low SWL .

NR levels can only be used as a guide as they cannot be accurate for every office environment. An evaluation must be undertaken by an acoustician to reliably ascertain the final NR levels in the air conditioned space.

Independent test data to qualify the SWL's and the discharge factors shown below is available from the office upon request.

DISCHARGE FACTORS

63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
-5	-5	-5	-9	-12	-12	-12	-3

63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8Hz
------	-------	-------	-------	------	------	------	-----

37	34	34	24	23	15	17	20
43	38	38	29	29	22	15	20
44	41	41	33	34	27	22	24
45	43	43	36	38	31	28	32
46	45	45	40	39	35	32	36

36	34	33	29	23	14	16	20
40	39	37	32	28	21	13	20
43	43	41	36	33	27	21	23
46	45	44	39	37	31	27	30
46	47	46	41	39	35	31	35

45	39	41	33	29	21	12	20
48	42	44	37	34	27	20	22
50	46	47	40	38	32	27	29
52	48	50	43	42	36	31	35
53	50	52	46	45	39	35	39

45	40	40	34	28	20	10	20
48	43	43	37	32	26	18	21
48	46	46	40	37	31	25	27
50	48	48	42	40	35	30	33
53	50	51	45	43	39	35	38

45	40	42	34	30	21	14	20
48	43	44	38	36	28	21	21
51	47	48	41	40	34	28	28
54	49	53	45	44	38	33	34
55	52	55	47	47	39	37	41

45	41	41	35	29	22	11	20
48	44	45	38	34	27	19	21
49	47	47	41	38	33	26	28
52	49	51	44	42	37	32	35
53	52	53	46	45	40	36	40

46	42	44	37	31	24	15	20
50	45	47	41	36	29	22	24
51	48	50	43	40	34	29	31
54	51	53	46	44	39	34	38
55	53	56	48	47	41	37	42

50	45	45	38	33	25	16	20
52	48	49	42	38	31	23	25
55	50	51	45	42	36	30	33
56	53	54	47	45	39	35	38
58	55	56	49	47	42	38	42

INLET SOUND POWER

63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8Hz
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44	44	42	41	30	23	17	20
48	48	46	46	36	31	24	20
52	52	50	49	41	36	31	22
55	55	53	51	44	40	35	26
56	56	55	52	47	42	38	30

41	43	40	38	31	24	16	20
44	47	44	42	37	32	23	20
47	51	47	46	42	37	30	22
49	54	50	48	45	41	36	26
52	55	52	51	48	43	39	30

48	48	49	45	37	31	22	21
50	51	52	49	42	37	30	22
52	54	55	52	46	41	37	26
53	57	58	55	49	45	41	32
55	59	60	57	52	48	44	35

51	49	47	43	36	30	21	21
53	51	51	47	41	36	29	21
53	54	53	50	45	41	35	24
54	56	56	53	48	44	40	30
58	61	61	55	51	48	44	34

48	49	51	48	39	33	24	21
49	52	53	51	44	39	30	21
52	56	57	54	48	44	38	25
53	60	60	57	52	47	44	33
57	61	62	59	54	49	46	36

51	50	49	46	38	32	22	21
52	52	52	49	43	38	29	21
53	56	55	52	47	43	36	26
54	59	58	55	51	46	42	32
55	60	60	57	53	49	45	36

52	52	50	48	40	34	25	20
55	54	53	51	44	40	32	22
56	58	57	54	49	45	39	29
58	61	61	57	53	49	44	35
59	63	63	59	55	51	48	39

52	53	52	49	41	35	25	21
55	56	56	52	45	41	33	23
58	59	59	55	50	46	40	30
58	61	62	58	53	49	45	35
61	63	64	61	57	52	49	40

100 200 250 300 400 500 550 600

NR	SPEED	AC FULL LOAD AMPS	AC START AMPS
25	UL LOW	0.15	0.45
30	EX LOW	0.22	0.66
33	STD LOW	0.30	0.90
35	LOW PLUS	0.37	1.11
36	MEDIUM	0.46	1.38
25	UL LOW	0.15	0.45
26	EX LOW	0.22	0.66
30	STD LOW	0.30	0.90
32	LOW PLUS	0.37	1.11
34	MEDIUM	0.46	1.38
29	UL LOW	0.29	0.87
33	EX LOW	0.43	1.29
34	STD LOW	0.59	1.77
37	LOW PLUS	0.74	2.22
38	MEDIUM	0.92	2.76
26	UL LOW	0.29	0.87
31	EX LOW	0.43	1.29
32	STD LOW	0.59	1.77
34	LOW PLUS	0.74	2.22
38	MEDIUM	0.92	2.76
29	UL LOW	0.44	1.32
33	EX LOW	0.65	1.95
35	STD LOW	0.89	2.67
37	LOW PLUS	1.11	3.33
39	MEDIUM	1.38	4.14
29	UL LOW	0.44	1.32
30	EX LOW	0.65	1.95
34	STD LOW	0.89	2.67
36	LOW PLUS	1.11	3.33
38	MEDIUM	1.38	4.14
30	UL LOW	0.60	1.80
32	EX LOW	0.88	2.64
35	STD LOW	1.20	3.60
38	LOW PLUS	1.48	4.44
40	MEDIUM	1.84	5.52
30	UL LOW	0.75	2.25
33	EX LOW	1.10	3.30
35	STD LOW	1.50	4.50
39	LOW PLUS	1.85	5.55
42	MEDIUM	2.30	6.90

COOLING DUTY - kW

PERFORMANCE

The cooling duties are based on 30Pa external resistance, Summer Entering Air at 23 °C db - 50% RH and the heating duties are based on Winter Entering Air at 20 °C. Cooling kW are the maximum available. Leaving air temperature or pressure drop constraints may reduce outputs.

HYDRAULIC PRESSURE DROPS

$$\frac{\text{NEW PRESS DROP}}{\text{KNOWN PRESS DROP}} = \left(\frac{\text{NEW FLOW}}{\text{KNOWN FLOW}} \right)^2 \times \frac{\text{KNOWN PRESS DROP}}{\text{KNOWN PRESS DROP}}$$

4 ROW COOLING COIL	FLOW L/S	KPa
SIZE 100	0.10	13.05
SIZE 200 / 250	0.15	13.97
SIZE 300	0.20	13.14
SIZE 400	0.25	13.28
SIZE 500 / 550	0.30	20.26
SIZE 600	0.35	24.99

1 ROW HEATING COIL	FLOW L/S	KPa
SIZE 100	0.05	2.35
SIZE 200 / 250	0.05	3.05
SIZE 300	0.08	9.66
SIZE 400	0.10	18.00
SIZE 500 / 550	0.10	6.00
SIZE 600	0.10	6.30

Direct Current FCUs 

The Titan fan coil units illustrated in this catalogue are also available in Direct Current (DC) motor versions. These reduce electrical loads by 65-75%, have infinite speed control effected by a 0-10v signal, they give off no motor heat and last twice as long as their AC equivalents.

SEN kW	TOTAL kW	SEN kW	TOTAL kW	SEN kW	TOTAL kW	SEN kW	TOTAL kW
0.88	1.04	0.82	0.96	0.77	0.85	0.61	0.61
1.27	1.52	1.18	1.39	1.13	1.24	0.88	0.88
1.64	1.95	1.52	1.79	1.45	1.59	1.13	1.13
2.07	2.46	1.92	2.26	1.83	2.01	1.43	1.43
2.42	2.88	2.25	2.65	2.14	2.35	1.67	1.67
0.97	1.16	0.91	1.06	0.86	0.94	0.67	0.67
1.40	1.67	1.30	1.53	1.24	1.36	0.97	0.97
1.80	2.14	1.67	1.97	1.59	1.75	1.24	1.24
2.28	2.71	2.12	2.49	2.01	2.21	1.58	1.58
2.66	3.16	2.47	2.91	2.35	2.58	1.84	1.84
1.59	1.89	1.48	1.74	1.41	1.55	1.10	1.10
2.39	2.84	2.22	2.61	2.11	2.32	1.65	1.65
3.26	3.88	3.04	3.57	2.89	3.17	2.26	2.26
4.01	4.77	3.72	4.40	3.55	3.90	2.78	2.78
4.77	5.88	4.44	5.23	4.22	4.64	3.30	3.30
1.80	2.14	1.67	1.97	1.59	1.75	1.24	1.24
2.64	3.14	2.46	2.89	2.34	2.57	1.83	1.83
3.61	4.30	3.36	3.95	3.20	3.51	2.50	2.50
4.57	5.44	4.25	5.00	4.04	4.44	3.16	3.16
5.39	6.42	5.02	5.91	4.77	5.24	3.73	3.73
2.59	3.09	2.41	2.84	2.29	2.52	1.80	1.80
3.72	4.43	3.46	4.07	3.29	3.62	2.58	2.58
5.22	6.21	4.86	5.71	4.62	5.07	3.61	3.61
6.17	7.35	5.75	6.76	5.46	6.00	4.27	4.27
7.26	8.64	6.75	7.94	6.42	7.05	5.02	5.02
2.85	3.39	2.65	3.12	2.52	2.77	1.97	1.97
4.30	5.11	4.00	4.70	3.80	4.18	2.97	2.97
5.84	6.95	5.43	6.39	5.17	5.68	4.04	4.04
7.03	8.37	6.55	7.70	6.22	6.84	4.87	4.87
8.21	9.77	7.64	8.99	7.26	7.98	5.68	5.68
3.42	4.07	3.18	3.74	3.03	3.33	2.37	2.37
5.25	6.25	4.88	5.75	4.65	5.10	3.64	3.64
6.79	8.09	6.32	7.44	6.01	6.60	4.70	4.70
8.19	9.76	7.63	8.97	7.25	7.97	5.67	5.67
9.52	11.33	8.86	10.42	8.42	9.25	6.59	6.59
4.63	5.51	4.31	5.07	4.10	4.50	3.21	3.21
6.59	7.84	6.13	7.21	5.83	6.40	4.56	4.56
8.27	9.85	7.70	9.06	7.32	8.04	5.73	5.73
9.91	11.80	9.22	10.85	8.77	9.64	6.86	6.86
11.47	13.66	10.67	12.65	10.15	11.15	7.94	7.94

HEATING DUTY - kW

82°C/71°C 60°C/50°C 50°C/40°C

1.23	0.81	0.58
1.51	1.00	0.71
1.67	1.10	0.78
1.81	1.20	0.85
1.99	1.32	0.93

1.43	0.95	0.67
1.76	1.16	0.82
1.95	1.28	0.91
2.11	1.39	0.99
2.32	1.53	1.09

2.05	1.36	0.96
2.63	1.73	1.23
2.95	1.94	1.38
3.25	2.14	1.52
3.57	2.36	1.67

2.33	1.54	1.09
2.98	1.97	1.40
3.35	2.21	1.57
3.69	2.44	1.73
4.06	2.68	1.90

3.57	2.36	1.67
4.47	2.95	2.09
4.98	3.29	2.33
5.47	3.61	2.56
6.02	3.97	2.82

3.88	2.56	1.82
4.86	3.21	2.27
5.41	3.57	2.53
5.95	3.93	2.78
6.54	4.32	3.06

4.43	2.93	2.08
5.65	3.73	2.64
6.32	4.17	2.96
6.99	4.61	3.27
7.68	5.07	3.60

5.24	3.46	2.45
7.06	4.66	3.30
7.71	5.09	3.61
8.55	5.64	4.00
9.41	6.21	4.40

SPEED

UL LOW
EX LOW
STD LOW
LOW PLUS
MEDIUM

UL LOW
EX LOW
STD LOW
LOW PLUS
MEDIUM

UL LOW
EX LOW
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MEDIUM

UL LOW
EX LOW
STD LOW
LOW PLUS
MEDIUM

100
200
250
300
400
500
550
600

AIR VOLUMES L/S

10Pa 20Pa 30Pa 40Pa 50Pa

65	58	55	N/A	N/A
95	85	80	75	70
111	107	103	97	93
135	133	130	127	120
156	154	152	150	148

77	66	61	N/A	N/A
110	94	88	83	77
130	118	113	107	102
154	147	143	140	132
172	169	167	165	163

129	115	100	91	77
170	160	150	142	134
218	212	205	198	190
260	256	252	247	242
310	306	300	296	289

145	130	113	101	85
194	179	166	161	150
248	240	227	220	209
297	290	287	282	272
352	345	339	333	328

200	180	163	142	126
270	256	234	229	220
354	340	328	315	300
408	395	388	378	364
470	467	456	445	440

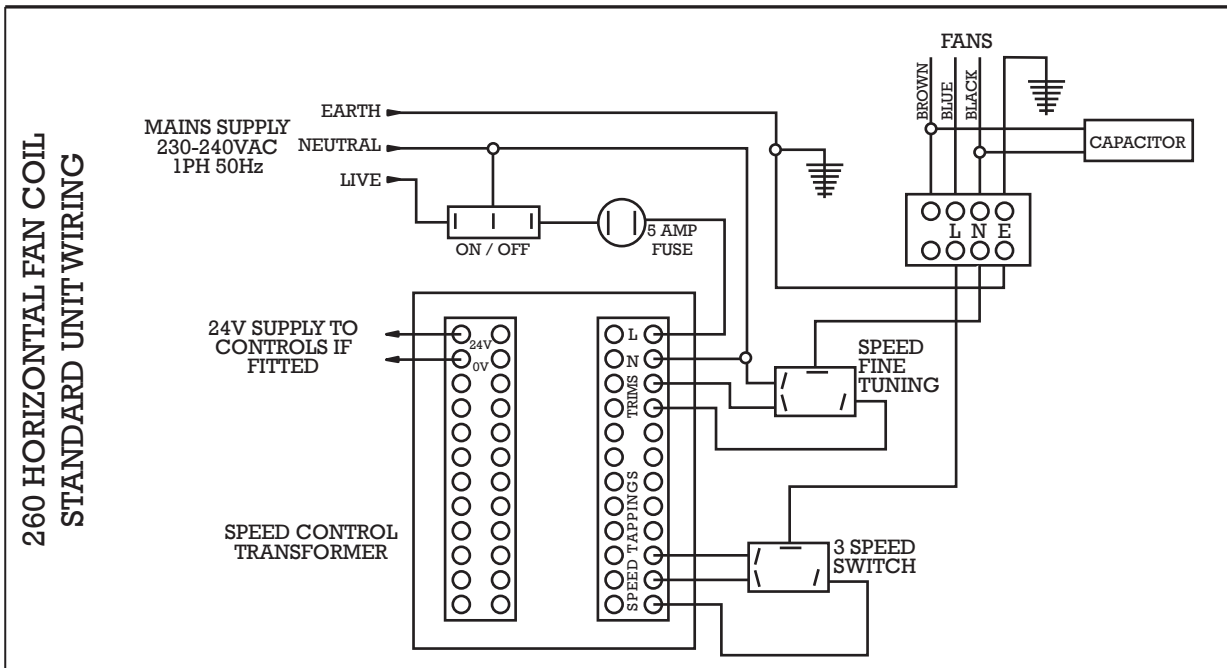
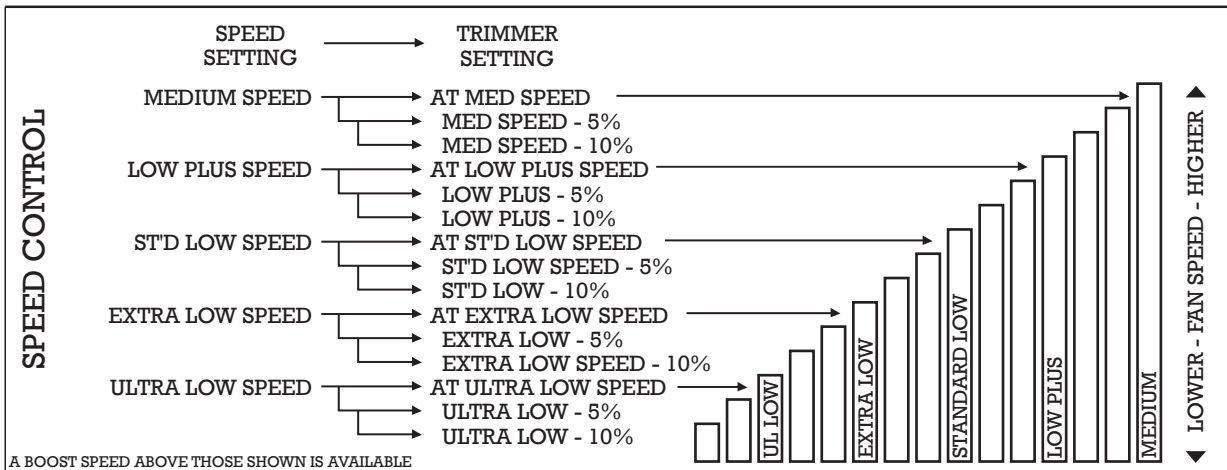
226	199	179	157	139
308	290	270	255	242
402	382	367	352	332
468	453	442	431	425
537	526	516	505	495

269	244	215	191	174
369	345	330	305	290
465	443	427	413	400
537	530	515	500	486
627	612	598	585	570

352	319	291	270	242
456	438	414	400	377
554	538	520	500	481
657	641	623	607	589
760	743	721	708	690

USEFUL INFORMATION

Speed Control. Every fan coil is supplied with a speed controlling transformer incorporating 6 speed tappings. Ability will wire each fan coil to the 3 speeds selected as the most appropriate for your project. Notwithstanding this, on site changes can be made if another set of speeds is felt more suitable for a particular area. Each fixed speed is additionally complemented with two fine adjustments. These are effected by adjusting the "fine tune" three position switch. The "fine tune" at setting one gives the selected speed unmodified with the two other fine tune settings giving two reductions on the main speed set.


Options & Extras

Inlet Plenums. Electric Heating. 200 or 250mm Spigots. Side Spigots Upon Request. Condensate Pumps. Fresh Air Connections. All Control Packages Catered For.

As part of our continuous improvement initiative we have to reserve the right to alter the specifications and or dimensions without notice. Therefore, please check your selections and any recent updates by calling the Ability internal sales office.

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