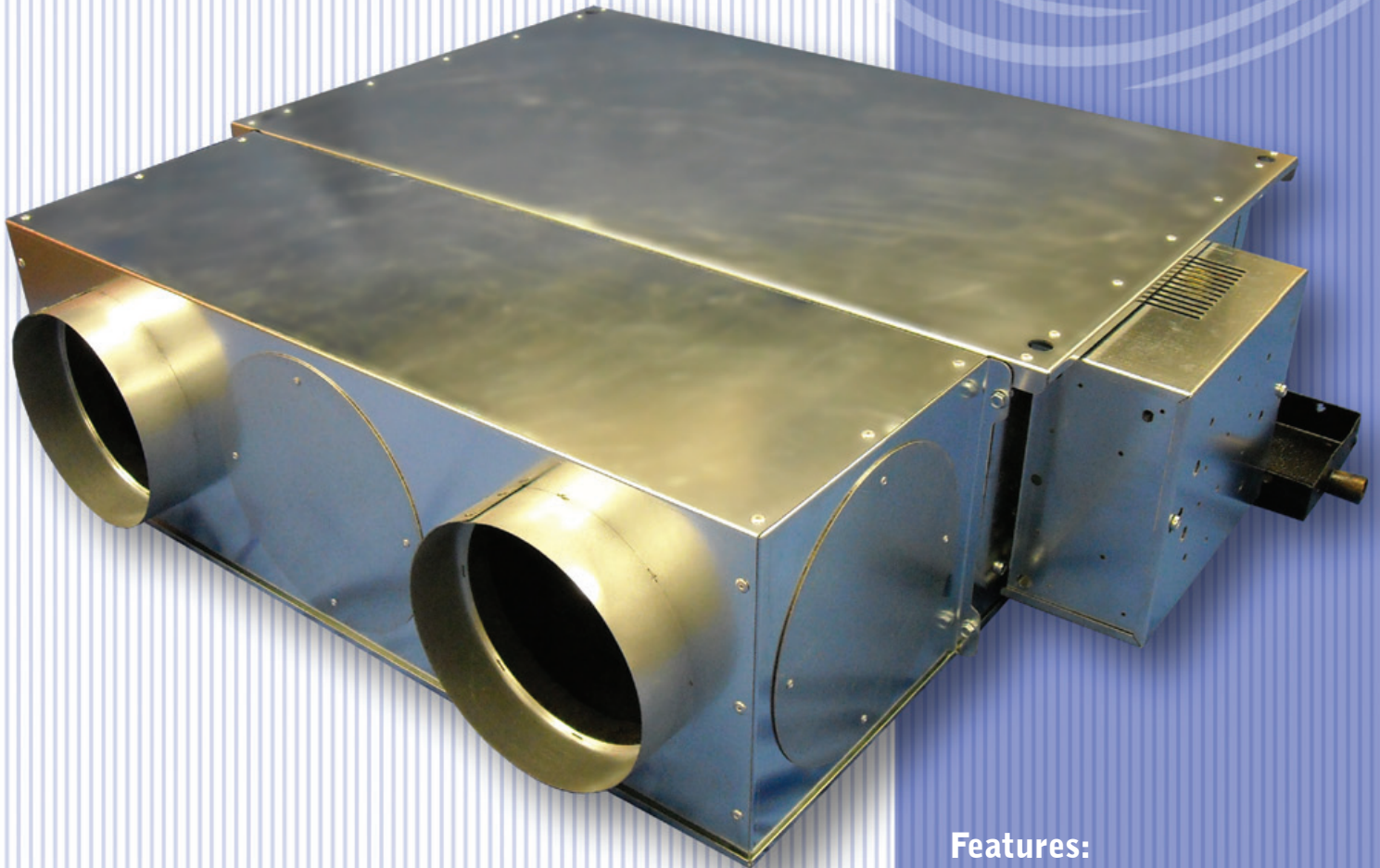


Highline 270ec

Waterside Control Fan Coil Units



Features:

- ▶ Incorporating Leading ec/dc Motor Technology
- ▶ ErP Directive 2015 Compliant
- ▶ Low Specific Fan Powers
- ▶ Infinite Fan Speed Control
- ▶ Performance at System Pressures Up To 50 pa
- ▶ Independently Established Performance Data
- ▶ Lifetime "eco" Filter

Highline 270ec

Waterside Control Fan Coil Units

Description

The Diffusion Highline ranges of waterside control fan coils have been specifically designed with consideration to their intended installation; being either a concealed horizontal ceiling void application, or recessed under the floor.

All of the Highline models have been configured to perform efficiently against external system static pressures up to 50 Pa.

Flexibility of design allows the Highline range to be configured to suit a variety of installation requirements; including circular, rectangular and bulkhead ducted connections.

The numerous models within the Highline range enable performance selections ranging from NR25 to NR40, and air volumes up to 700l/s.

Outline Engineering Specification

Chassis

The chassis shall be manufactured from heavy gauge galvanised mild steel sheet, with burr free edges and a natural finish, formed and strengthened to provide a rigid and distortion free construction.

Units shall have reinforced mounting points incorporated within the overall chassis width to facilitate drop rod installation.

Full width removable maintenance panels shall be fitted providing access to key internal components for maintenance purposes.

Fans

Fans shall be of the double inlet, double width, direct driven, centrifugal type.

Scrolls shall be manufactured from galvanised mild steel, complete with forward curved multi-bladed aluminum or galvanized steel impellers.

Impeller and motor assemblies shall be balanced in accordance with BS ISO 1940.

Motors

Motors shall be of the electronically commutated direct current type, rated for continuous operation with inbuilt overload protection devices, and shall be capable of performance control via a 0 to 10 Volt dc signal.

Construction shall be of the totally enclosed design protection rated to IP42, Insulation class 'B', with maintenance free sealed for life ball bearings, and compliant with BS 5000-11 and BS EN 60034

EMC: Interference emissions acc. to EN 61000-6-3
Interference immunity acc. to EN 61000-6-2

Electrical supply requirements: 230V-1ph-50Hz in accordance with DIN IEC 38.

Heat Exchanger

Heat exchanger matrixes shall be manufactured from solid drawn copper tubes; mechanically expanded into accurately pre-formed collars in rippled plate type aluminium fins.

Multi circuit designs shall be incorporated ensuring maximum thermal performance efficiency, headers unifying the circuits shall terminate in plain tail connections on 40mm centres.

Heating and Cooling circuit headers shall incorporate manually operated key pattern air vents and drains.

Heat exchangers shall be suitable for operating at system pressures up to 12 bar, tested to 30 bar dry air / nitrogen at manufacture, and subsequently leak tested again when fitted with valve sets at our works.

Electric Elements

Electric heating elements shall be manufactured from 8mm fully sheathed stainless steel rods, with spiral fin on a 4mm pitch. A manual re-set high temperature cut-out shall be fitted in accordance with standard safety requirements. The element construction shall comply with BS7351 – 1990.

Filters

Fitted as standard the Diffusion "eco" filter shall be made of a fine woven mesh manufactured from galvanised steel wire, welded to a rigid galvanised steel support frame; retained on the unit via thumb screws.

The "eco" filter shall be capable of being vacuum cleaned whilst fitted to the fan coil and removable for cleaning elsewhere if required.

Optionally lofted continuous filament synthetic media replaceable pad in frame filters can be fitted; providing filtration grades G2 or G3 in accordance with BS EN 779.

Condensate Drip Trays

Condensate drip trays shall be manufactured from hot dipped galvanised steel, designed with a dual axis fall to drain; welded at each corner and fitted with a 22mm diameter brass end drain connection at the lowest point. (15mm diameter connection option available).

The assembly is fully degreased and spray finished with an anti-condensation coating.

Insulation

Units shall be insulated throughout with 90kg/m³, CFC & HFC free, impregnated open cell flexible PU foam; with fire performance rating to BS 476 Part 7: Class 1 & Part 6: I < 12, I₍₁₎ < 6; Class '0' to building regulations.

Insulation adhesive shall be a light and age resisting modified acrylic resin with high temperature stability.

Controls Enclosures

A ventilated control enclosure shall be built onto the unit providing an enclosed location for fitment of thermal and speed switching control equipment.

Enclosure wiring shall be in accordance with BS 7671:2008 / IEE wiring regulations 17th edition.

Quality Testing

When fully assembled each unit shall be subjected to thorough mechanical examination, be run tested and function tested where possible; and need to have passed a series of electrical compliance checks prior to being QC approved in accordance with our BS EN ISO 9001:2008 quality standards; ready for packing and dispatch.

Options and Equipment

- ▶ Units are supplied as standard without performance modulation controls or waterside control valves; we can fit free-issued controls packages or supply controls packages specifically configured to your requirements
- ▶ Control valve fitting kits (Required when adaptors/connectors are not supplied with free issued valves)
- ▶ Pad and Frame G2 or G3 media filters
- ▶ Condensate pumps
- ▶ Fan fault monitoring boards. (Recommended when units are fitted with electric heating elements)
- ▶ Fan three speed interface board, allowing three pre-defined fan speeds to be selected for manual or control relay switching
- ▶ Anti-vibration Mount Kits
- ▶ Pre-commissioning filters
- ▶ Inlet/Return air plenums, and Inlet attenuators
- ▶ Additional options and equipment are available – for details contact our sales office.

Highline 270ec

Waterside Control Fan Coil Units

Airflow/NR/Speed Data

| Model Reference | Air Volume Against A 30 Pa System Resistance | Individual Unit Acoustic Guide | Duty Fan Speed Setting |
|-----------------------------|--|-----------------------------------|---------------------------|
| | l/s | NR | |
| HIGHLINE 27Bec WHCH-06/1 | 66 | 25 | uLow |
| | 81 | 27 | xLow |
| | 100 | 30 | Low |
| | 106 | 31 | Low+1 |
| | 113 | 32 | Low+2 |
| | 119 | 33 | Low+3 |
| | 130 | 35 | Med |
| | 137 | 36 | Med+1 |
| | 150 | 38 | Med+3 |
| | 162 | 40 | High |
| HIGHLINE 27Bec WHCH-09/1 | 76 | 25 | uLow |
| | 100 | 27 | xLow |
| | 117 | 30 | Low |
| | 130 | 31 | Low+1 |
| | 139 | 32 | Low+2 |
| | 150 | 33 | Low+3 |
| | 169 | 35 | Med |
| | 179 | 36 | Med+1 |
| | 199 | 38 | Med+3 |
| | 215 | 40 | High |
| HIGHLINE 27Bec WHCH-09/2 | 70 | 25 | uLow |
| | 114 | 27 | xLow |
| | 153 | 30 | Low |
| | 176 | 31 | Low+1 |
| | 198 | 32 | Low+2 |
| | 217 | 33 | Low+3 |
| | 258 | 35 | Med |
| | 278 | 36 | Med+1 |
| | 319 | 38 | Med+3 |
| | 357 | 40 | High |
| HIGHLINE 27Bec WHCH-12/2 | 110 | 25 | uLow |
| | 153 | 27 | xLow |
| | 198 | 30 | Low |
| | 222 | 31 | Low+1 |
| | 244 | 32 | Low+2 |
| | 265 | 33 | Low+3 |
| | 308 | 35 | Med |
| | 329 | 36 | Med+1 |
| | 373 | 38 | Med+3 |
| | 416 | 40 | High |
| HIGHLINE 27Bec WHCH-13/2 | 123 | 25 | uLow |
| | 168 | 27 | xLow |
| | 214 | 30 | Low |
| | 238 | 31 | Low+1 |
| | 262 | 32 | Low+2 |
| | 284 | 33 | Low+3 |
| | 328 | 35 | Med |
| | 350 | 36 | Med+1 |
| | 398 | 38 | Med+3 |
| | 443 | 40 | High |

Cooling Phase Data

| Sensible Cooling Performance | Total Cooling Performance | Chilled Water Flow Rate | Chilled Water Hydraulic Pres- sure Drop | Supply Air Temperature |
|---------------------------------|------------------------------|----------------------------|---|---------------------------|
| Watts | Watts | l/s | kPa | db°C |
| 974 | 1245 | 0.050 | 1.66 | 10.7 |
| 1122 | 1394 | 0.056 | 2.04 | 11.4 |
| 1360 | 1678 | 0.067 | 2.87 | 11.6 |
| 1438 | 1772 | 0.071 | 3.17 | 11.7 |
| 1531 | 1886 | 0.076 | 3.55 | 11.7 |
| 1603 | 1970 | 0.079 | 3.85 | 11.8 |
| 1737 | 2129 | 0.086 | 4.44 | 11.9 |
| 1812 | 2212 | 0.089 | 4.77 | 12.0 |
| 1954 | 2369 | 0.096 | 5.42 | 12.1 |
| 2084 | 2515 | 0.102 | 6.06 | 12.3 |
| 1185 | 1548 | 0.062 | 1.4 | 10.0 |
| 1406 | 1747 | 0.070 | 1.8 | 11.3 |
| 1562 | 1901 | 0.076 | 2.1 | 11.9 |
| 1740 | 2120 | 0.085 | 2.6 | 11.8 |
| 1862 | 2270 | 0.091 | 2.9 | 11.8 |
| 2008 | 2449 | 0.098 | 3.4 | 11.8 |
| 2255 | 2747 | 0.111 | 4.1 | 11.9 |
| 2379 | 2896 | 0.117 | 4.6 | 11.9 |
| 2603 | 3149 | 0.127 | 5.3 | 12.1 |
| 2778 | 3345 | 0.136 | 6.0 | 12.2 |
| 1126 | 1492 | 0.060 | 1.3 | 9.6 |
| 1538 | 1879 | 0.075 | 2.1 | 11.7 |
| 2057 | 2507 | 0.100 | 3.5 | 11.8 |
| 2356 | 2868 | 0.115 | 4.4 | 11.8 |
| 2618 | 3169 | 0.127 | 5.3 | 12.0 |
| 2828 | 3402 | 0.136 | 6.1 | 12.1 |
| 3278 | 3911 | 0.157 | 7.8 | 12.4 |
| 3486 | 4141 | 0.167 | 8.7 | 12.5 |
| 3894 | 4585 | 0.185 | 10.5 | 12.8 |
| 4266 | 4986 | 0.202 | 12.3 | 13.0 |
| 1630 | 2074 | 0.083 | 2.8 | 10.7 |
| 2243 | 2840 | 0.113 | 4.9 | 10.8 |
| 2842 | 3563 | 0.142 | 7.5 | 11.0 |
| 3147 | 3922 | 0.157 | 8.9 | 11.2 |
| 3401 | 4212 | 0.169 | 10.1 | 11.4 |
| 3640 | 4482 | 0.180 | 11.4 | 11.5 |
| 4115 | 5010 | 0.201 | 14.0 | 11.8 |
| 4342 | 5258 | 0.211 | 15.3 | 12.0 |
| 4793 | 5747 | 0.231 | 18.1 | 12.3 |
| 5216 | 6209 | 0.251 | 20.9 | 12.5 |
| 1910 | 2485 | 0.099 | 2.5 | 10.1 |
| 2560 | 3299 | 0.132 | 4.3 | 10.3 |
| 3221 | 4130 | 0.165 | 6.4 | 10.5 |
| 3552 | 4538 | 0.181 | 7.6 | 10.6 |
| 3879 | 4937 | 0.197 | 8.9 | 10.7 |
| 4158 | 5266 | 0.211 | 10.0 | 10.8 |
| 4681 | 5862 | 0.235 | 12.2 | 11.1 |
| 4942 | 6159 | 0.247 | 13.4 | 11.2 |
| 5484 | 6773 | 0.272 | 16.0 | 11.5 |
| 5968 | 7311 | 0.295 | 18.5 | 11.8 |

Heating Phase Data

| Sensible Heating Performance | Hot Water Flow Rate | Hot Water Hydraul- ic Pressure Drop | Supply Air Temperature |
|---------------------------------|------------------------|--|---------------------------|
| Watts | l/s | kPa | db°C |
| 1278 | 0.031 | 2.24 | 37.1 |
| 1450 | 0.035 | 2.81 | 35.9 |
| 1659 | 0.040 | 3.60 | 34.8 |
| 1729 | 0.042 | 3.88 | 34.6 |
| 1807 | 0.044 | 4.20 | 34.3 |
| 1868 | 0.045 | 4.47 | 34.1 |
| 1972 | 0.048 | 4.93 | 33.6 |
| 2030 | 0.049 | 5.20 | 33.3 |
| 2148 | 0.052 | 5.76 | 32.9 |
| 2240 | 0.054 | 6.22 | 32.5 |
| 1696 | 0.041 | 0.7 | 39.6 |
| 1829 | 0.044 | 0.8 | 36.2 |
| 2024 | 0.049 | 1.0 | 35.4 |
| 2162 | 0.053 | 1.1 | 34.9 |
| 2263 | 0.055 | 1.2 | 34.6 |
| 2378 | 0.058 | 1.4 | 34.2 |
| 2567 | 0.062 | 1.6 | 33.7 |
| 2675 | 0.065 | 1.7 | 33.5 |
| 2841 | 0.069 | 1.9 | 32.9 |
| 2969 | 0.072 | 2.0 | 32.5 |
| 1675 | 0.041 | 0.7 | 40.9 |
| 1994 | 0.048 | 1.0 | 35.6 |
| 2409 | 0.058 | 1.4 | 34.1 |
| 2645 | 0.064 | 1.6 | 33.5 |
| 2834 | 0.069 | 1.9 | 32.9 |
| 2983 | 0.072 | 2.1 | 32.5 |
| 3311 | 0.080 | 2.5 | 31.7 |
| 3457 | 0.084 | 2.7 | 31.4 |
| 3755 | 0.091 | 3.1 | 30.8 |
| 4033 | 0.098 | 3.6 | 30.4 |
| 2157 | 0.052 | 1.3 | 37.3 |
| 2639 | 0.064 | 1.9 | 35.4 |
| 3124 | 0.076 | 2.5 | 34.1 |
| 3377 | 0.082 | 2.9 | 33.7 |
| 3556 | 0.086 | 3.2 | 33.1 |
| 3739 | 0.091 | 3.5 | 32.8 |
| 4081 | 0.099 | 4.1 | 32.0 |
| 4253 | 0.103 | 4.5 | 31.8 |
| 4582 | 0.111 | 5.1 | 31.2 |
| 4904 | 0.119 | 5.8 | 30.8 |
| 2645 | 0.064 | 2.1 | 38.9 |
| 3060 | 0.074 | 2.8 | 36.2 |
| 3573 | 0.087 | 3.7 | 34.9 |
| 3835 | 0.093 | 4.2 | 34.4 |
| 4098 | 0.100 | 4.7 | 34.0 |
| 4288 | 0.104 | 5.1 | 33.6 |
| 4666 | 0.113 | 6.0 | 32.9 |
| 4846 | 0.118 | 6.4 | 32.5 |
| 5241 | 0.127 | 7.4 | 32.0 |
| 5587 | 0.136 | 8.3 | 31.5 |

Electrical Data

| Motor Power | Maximum Start/ Run Current | Specific Fan Power |
|-------------|-------------------------------|-----------------------|
| Watts | Amps | W/l/s |
| 10 | 0.39 | 0.16 |
| 14 | 0.39 | 0.17 |
| 19 | 0.39 | 0.19 |
| 22 | 0.39 | 0.20 |
| 24 | 0.39 | 0.21 |
| 27 | 0.39 | 0.23 |
| 32 | 0.39 | 0.25 |
| 36 | 0.39 | 0.26 |
| 41 | 0.39 | 0.28 |
| 49 | 0.39 | 0.31 |
| 12 | 0.8 | 0.16 |
| 16 | 0.8 | 0.16 |
| 22 | 0.8 | 0.18 |
| 24 | 0.8 | 0.19 |
| 28 | 0.8 | 0.20 |
| 32 | 0.8 | 0.21 |
| 41 | 0.8 | 0.24 |
| 46 | 0.8 | 0.26 |
| 59 | 0.8 | 0.30 |
| 73 | 0.8 | 0.34 |
| 12 | 0.7 | 0.16 |
| 16 | 0.7 | 0.14 |
| 22 | 0.7 | 0.14 |
| 25 | 0.7 | 0.14 |
| 31 | 0.7 | 0.15 |
| 35 | 0.7 | 0.16 |
| 48 | 0.7 | 0.19 |
| 56 | 0.7 | 0.20 |
| 75 | 0.7 | 0.23 |
| 98 | 0.7 | 0.27 |
| 13 | 0.9 | 0.12 |
| 19 | 0.9 | 0.12 |
| 26 | 0.9 | 0.13 |
| 31 | 0.9 | 0.14 |
| 36 | 0.9 | 0.15 |
| 43 | 0.9 | 0.16 |
| 56 | 0.9 | 0.18 |
| 64 | 0.9 | 0.20 |
| 86 | 0.9 | 0.23 |
| 116 | 0.9 | 0.28 |
| 14 | 1.0 | 0.11 |
| 20 | 1.0 | 0.12 |
| 29 | 1.0 | 0.13 |
| 34 | 1.0 | 0.14 |
| 40 | 1.0 | 0.15 |
| 47 | 1.0 | 0.16 |
| 61 | 1.0 | 0.19 |
| 70 | 1.0 | 0.20 |
| 94 | 1.0 | 0.23 |
| 126 | 1.0 | 0.28 |

Based on following Design Condition:

- ▶ Return Air Temperature(summer): 23°C db and 16.4°C wb
- ▶ Chilled Water Temperature: 6/12 °C
- ▶ Return Air Temperature(winter): 21°C
- ▶ LPHW Temperature: 60/50 °C
- ▶ External Static Pressure: 30Pa
- ▶ Electric heat is available on all units.
- ▶ For further information please contact us.
- ▶ For any alternative design conditions please contact the Cooling Department at Diffusion.

| Model Reference | Airflow/NR/Speed Data | | | Cooling Phase Data | | | | | Heating Phase Data | | | | Electrical Data | | |
|-----------------------------|--|--------------------------------|------------------------|------------------------------|---------------------------|-------------------------|---------------------------------------|------------------------|------------------------------|---------------------|-----------------------------------|------------------------|-----------------|---------------------------|--------------------|
| | Air Volume Against A 30 Pa System Resistance | Individual Unit Acoustic Guide | Duty Fan Speed Setting | Sensible Cooling Performance | Total Cooling Performance | Chilled Water Flow Rate | Chilled Water Hydraulic Pressure Drop | Supply Air Temperature | Sensible Heating Performance | Hot Water Flow Rate | Hot Water Hydraulic Pressure Drop | Supply Air Temperature | Motor Power | Maximum Start/Run Current | Specific Fan Power |
| | l/s | NR | | Watts | Watts | l/s | kPa | db°C | Watts | l/s | kPa | db°C | Watts | Amps | W/l/s |
| HIGHLINE 27Bec WHCH-15/2 | 116 | 25 | uLow | 1965 | 2661 | 0.106 | 2.1 | 8.9 | 3197 | 0.078 | 3.5 | 44.0 | 13 | 1.0 | 0.11 |
| | 162 | 27 | xLow | 2521 | 3284 | 0.131 | 3.1 | 10.0 | 3340 | 0.081 | 3.8 | 38.2 | 19 | 1.0 | 0.12 |
| | 211 | 30 | Low | 3270 | 4253 | 0.170 | 4.9 | 10.1 | 3892 | 0.095 | 5.0 | 36.4 | 28 | 1.0 | 0.13 |
| | 236 | 31 | Low+1 | 3638 | 4721 | 0.189 | 5.9 | 10.2 | 4182 | 0.102 | 5.7 | 35.8 | 34 | 1.0 | 0.14 |
| | 260 | 32 | Low+2 | 3986 | 5159 | 0.206 | 7.0 | 10.2 | 4455 | 0.108 | 6.4 | 35.3 | 40 | 1.0 | 0.15 |
| | 283 | 33 | Low+3 | 4314 | 5567 | 0.223 | 8.0 | 10.3 | 4711 | 0.114 | 7.1 | 34.9 | 45 | 1.0 | 0.16 |
| | 328 | 35 | Med | 4935 | 6333 | 0.254 | 10.2 | 10.5 | 5206 | 0.126 | 8.5 | 34.2 | 60 | 1.0 | 0.18 |
| | 350 | 36 | Med+1 | 5212 | 6660 | 0.267 | 11.1 | 10.6 | 5396 | 0.131 | 9.1 | 33.8 | 68 | 1.0 | 0.20 |
| | 396 | 38 | Med+3 | 5778 | 7318 | 0.294 | 13.3 | 10.9 | 5798 | 0.141 | 10.4 | 33.2 | 90 | 1.0 | 0.23 |
| HIGHLINE 27Bec WHCH-15/3 | 440 | 40 | High | 6293 | 7907 | 0.319 | 15.4 | 11.1 | 6177 | 0.150 | 11.6 | 32.7 | 122 | 1.0 | 0.28 |
| | 70 | 25 | uLow | 1324 | 1871 | 0.075 | 1.1 | 7.3 | 2575 | 0.063 | 2.4 | 51.7 | 13 | 1.2 | 0.19 |
| | 138 | 27 | xLow | 2210 | 2920 | 0.117 | 2.5 | 9.6 | 3307 | 0.080 | 3.7 | 41.0 | 19 | 1.2 | 0.13 |
| | 203 | 30 | Low | 3150 | 4099 | 0.164 | 4.6 | 10.1 | 3798 | 0.092 | 4.8 | 36.6 | 26 | 1.2 | 0.13 |
| | 251 | 31 | Low+1 | 3859 | 5000 | 0.200 | 6.6 | 10.2 | 4354 | 0.106 | 6.1 | 35.5 | 34 | 1.2 | 0.14 |
| | 297 | 32 | Low+2 | 4512 | 5811 | 0.232 | 8.6 | 10.3 | 4866 | 0.118 | 7.5 | 34.7 | 43 | 1.2 | 0.14 |
| | 340 | 33 | Low+3 | 5101 | 6533 | 0.261 | 10.7 | 10.5 | 5308 | 0.129 | 8.8 | 34.0 | 52 | 1.2 | 0.15 |
| | 399 | 35 | Med | 5835 | 7388 | 0.296 | 13.4 | 10.8 | 5818 | 0.141 | 10.4 | 33.2 | 68 | 1.2 | 0.17 |
| | 443 | 36 | Med+1 | 6363 | 7993 | 0.321 | 15.5 | 11.0 | 6197 | 0.150 | 11.7 | 32.7 | 84 | 1.2 | 0.19 |
| HIGHLINE 27Bec WHCH-18/3 | 525 | 38 | Med+3 | 7301 | 9050 | 0.364 | 19.6 | 11.4 | 6874 | 0.167 | 14.2 | 31.9 | 123 | 1.2 | 0.23 |
| | 580 | 40 | High | 7945 | 9802 | 0.396 | 22.8 | 11.6 | 7307 | 0.177 | 15.8 | 31.5 | 165 | 1.2 | 0.28 |
| | 102 | 25 | uLow | 1868 | 2609 | 0.104 | 1.6 | 7.7 | 3502 | 0.085 | 1.7 | 49.6 | 14 | 1.2 | 0.13 |
| | 170 | 27 | xLow | 2790 | 3728 | 0.149 | 3.1 | 9.3 | 4174 | 0.101 | 2.4 | 41.5 | 20 | 1.2 | 0.12 |
| | 234 | 30 | Low | 3678 | 4817 | 0.192 | 4.9 | 9.9 | 4518 | 0.110 | 2.8 | 37.1 | 28 | 1.2 | 0.12 |
| | 282 | 31 | Low+1 | 4403 | 5748 | 0.230 | 6.7 | 10.0 | 5064 | 0.123 | 3.4 | 36.0 | 36 | 1.2 | 0.13 |
| | 329 | 32 | Low+2 | 5082 | 6599 | 0.264 | 8.7 | 10.1 | 5593 | 0.136 | 4.1 | 35.2 | 44 | 1.2 | 0.13 |
| | 372 | 33 | Low+3 | 5689 | 7351 | 0.294 | 10.6 | 10.3 | 6065 | 0.147 | 4.7 | 34.6 | 54 | 1.2 | 0.14 |
| | 430 | 35 | Med | 6479 | 8317 | 0.333 | 13.3 | 10.5 | 6679 | 0.162 | 5.7 | 33.9 | 69 | 1.2 | 0.16 |
| HIGHLINE 27Bec WHCH-18/4 | 475 | 36 | Med+1 | 7041 | 8972 | 0.359 | 15.3 | 10.7 | 7064 | 0.172 | 6.3 | 33.4 | 84 | 1.2 | 0.18 |
| | 559 | 38 | Med+3 | 8037 | 10109 | 0.406 | 19.1 | 11.0 | 7774 | 0.189 | 7.5 | 32.6 | 122 | 1.2 | 0.22 |
| | 616 | 40 | High | 8688 | 10840 | 0.437 | 21.8 | 11.3 | 8251 | 0.200 | 8.4 | 32.2 | 163 | 1.2 | 0.26 |
| | 152 | 27 | uLow | 2510 | 3362 | 0.134 | 2.5 | 9.2 | 4082 | 0.099 | 2.3 | 43.4 | 18 | 1.2 | 0.12 |
| | 212 | 28 | xLow | 3334 | 4367 | 0.174 | 4.1 | 9.9 | 4249 | 0.103 | 2.5 | 37.7 | 23 | 1.2 | 0.11 |
| | 304 | 30 | Low | 4727 | 6155 | 0.246 | 7.6 | 10.0 | 5313 | 0.129 | 3.7 | 35.6 | 34 | 1.2 | 0.11 |
| | 348 | 31 | Low+1 | 5357 | 6940 | 0.277 | 9.5 | 10.2 | 5802 | 0.141 | 4.4 | 34.9 | 40 | 1.2 | 0.11 |
| | 388 | 32 | Low+2 | 5915 | 7627 | 0.305 | 11.3 | 10.3 | 6244 | 0.152 | 5.0 | 34.4 | 47 | 1.2 | 0.12 |
| | 435 | 33 | Low+3 | 6554 | 8406 | 0.336 | 13.5 | 10.5 | 6723 | 0.163 | 5.7 | 33.9 | 56 | 1.2 | 0.13 |
| | 521 | 35 | Med | 7611 | 9627 | 0.385 | 17.3 | 10.8 | 7456 | 0.181 | 6.9 | 32.9 | 79 | 1.2 | 0.15 |
| | 559 | 36 | Med+1 | 8062 | 10140 | 0.406 | 19.1 | 11.0 | 7774 | 0.189 | 7.5 | 32.6 | 90 | 1.2 | 0.16 |
| | 635 | 38 | Med+3 | 9001 | 11237 | 0.451 | 23.1 | 11.2 | 8410 | 0.204 | 8.7 | 32.0 | 123 | 1.2 | 0.19 |
| | 707 | 40 | High | 9766 | 12078 | 0.486 | 26.5 | 11.5 | 8969 | 0.218 | 9.8 | 31.6 | 175 | 1.2 | 0.25 |

NR Guide Qualification

Calculations detailed in the CIBSE Guide for Sound Control are used to model the combined Inlet and Case Radiated sound power levels and Discharge sound power levels for each unit and speed setting; providing a Guide NR rating for the units when installed in a typical manner.

- ▶ Room size based on a cooling load of:

▶ Ceiling allowance / loss; from:

▶ Discharge system allowance / loss; from:

▶ Room acoustic characteristics:

▶ Distance to listener:
- 90Watts per square metre.

125Hz to 4kHz -4,-7,-9,-11,-14, and-16 dB.

125Hz to 4kHz -3,-5,-9,-10,-10 and -11 dB.

Medium Live.

1.5 metres.

*Please note that our NR figure should be considered as a guide only.

There are many factors which influence the actual resultant NR level within a given space; thus we would recommend that for a more accurate prediction of the resultant NR level an independent acoustic specialist be employed.

HIGHLINE 27-WH - GENERAL ARRANGEMENT DETAILS



DIFFUSION Fan Coil Coding System

| UNIT MODEL | COIL DESIGN | FAN TYPE | CONTROL | APPLICATION | OPTIONS | UNIT SIZE |
|--------------------------|------------------------|------------------------|---------------------|-----------------------|------------------------------|-----------|
| H27 –Highline 270 | B –Circuit Type | ec –ec/dc motor | W –Waterside | H –Horizontal | CH –COOLING & HEATING | 06/1 |
| | | | | U –Under-floor | CO –COOLING ONLY | 09/2 |
| | | | | | CE –COOLING & ELECHTG | 12/2 |
| | | | | | OH –HEATING ONLY | 13/2 |
| | | | | | | 15/2 |
| | | | | | | 15/3 |
| | | | | | | 18/3 |
| | | | | | | 18/4 |

e.g.

► **H27Bec-WHCH-12/2**

HIGHLINE 270 – B circuit coil with ec/dc fans - Waterside Horizontal – Cooling and Heating 4 pipe - Size 12/2.

► **H27Bec-WHCE-15/3**

HIGHLINE 270 – B circuit coil with ec/dc fans - Waterside Horizontal – Cooling and Electric Heating 2 pipe - Size 15/3.

Established in 1960,
Diffusion has over 50 years
experience in producing
environmental solutions
via the manufacture of heating,
air conditioning and
ventilating products.



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