

The VTB EN54 Part 3 & 23 Approved sounder beacon is part of the VTG/VTB family of products designed for use with conventional fire alarm systems

The sounder function like all VTG family of products comes as standard with 32 tones.

The VAD beacon has been approved to EN54-23, at W-2.4-8 coverage range (Reduced room size coverage available via the DIL switch W-2.4-4, but does not comply with EN54-23)

The sounder function features a two-stage alarm override which is activated by a third negative wire from the fire panel.

Both the sounder and beacon functions are fully synchronised. The sounder function has been fully approved to EN54 part 3 by Intertek on tones 1, 8, 11, 25 and 27. The product can also be used as a beacon only which is easily selected by a DIL switch at the time of installation.

Approved at 1Hz flash rate. (0.5Hz flash rate available via the DIL switch, but does not comply with EN54-23)

- Sounder function fully approved to EN54-3 and beacon (VAD) to EN54-23
- 32 tones plus a selectable override tone
- Shallow base IP21C and deep base IP33C versions available
- Designed to work with conventional alarm circuits
- Switch selectable beacon only feature
- Unique twist and lock bayonet mounting system
- Removable cover on deep base for surface wiring
- Features base locking system as standard



## TECHNICAL

|                                     |   |                              |                                   |
|-------------------------------------|---|------------------------------|-----------------------------------|
| Voltage range (VDC)                 | 18 - 30   |                              |                                   |
| Number of tones                     | 32  |                              |                                   |
| Operating frequency (Hz)            | 440 - 2900  |                              |                                   |
| Temperature range (°C)              | -20 to +70  |                              |                                   |
| Flash rate                          | c.1Hz (Approved)<br>(Option for 0.5Hz does not comply with EN54-23) |                              |                                   |
| Monitoring                          | Reverse polarity  |                              |                                   |
| Protection rating (EN54 Approved)   | IP21C (Shallow)   | IP33C (Deep)                 |                                   |
| Protection rating (BS EN 60529)     | IP65C (Deep)  |                              |                                   |
| Base part numbers                   | Shallow   | 116-085 Red<br>116-086 White | deep 126-021 Red<br>126-022 White |
| Boxed weight (kg)                   | 0.22 (Shallow)  | 0.25 (Deep)                  |                                   |
| Body colours available              | Red or White (ABS fire retardant plastic)                           |                              |                                   |
| Lens colours available/flash colour | Red lens / White flash  |                              |                                   |

## PERFORMANCE

|                                       |  |     |
|---------------------------------------|--|-----|
| Volume setting                        | High   | Low |
| Tone 1 sound output, (dBA)            | 98   | 66  |
| Max. current consumption @ 24Vdc (mA) | 40   | 25  |
| Max power consumption @ 24Vdc (mW)    | 960  | 600 |
| Beacon coverage                       | W-2.4-8 (Approved)<br>(Option for W-2.4-4 does not comply with EN54-23)    |     |
| Coverage volume:                      | 154m <sup>3</sup>  |     |
| Light temporal pattern                | Single pulse width of 35 - 100ms @<br>frequency of 1Hz (approved at 100ms) |     |
| Maintenance:                          | refer to local test and maintenance guidance                               |     |

## ORDERING INFORMATION

|   |         |
|---|---------|
| VTB-32EVAD EN54-3 & 23 Red body, 32 tone, shallow base, white flash   | 511-307 |
| VTB-32EVAD EN54-3 & 23 Red body, 32 tone, deep base, white flash      | 511-308 |
| VTB-32EVAD EN54-3 & 23 White body, 32 tone, shallow base, white flash | 511-301 |
| VTB-32EVAD EN54-3 & 23 White body, 32 tone, deep base, white flash    | 511-302 |

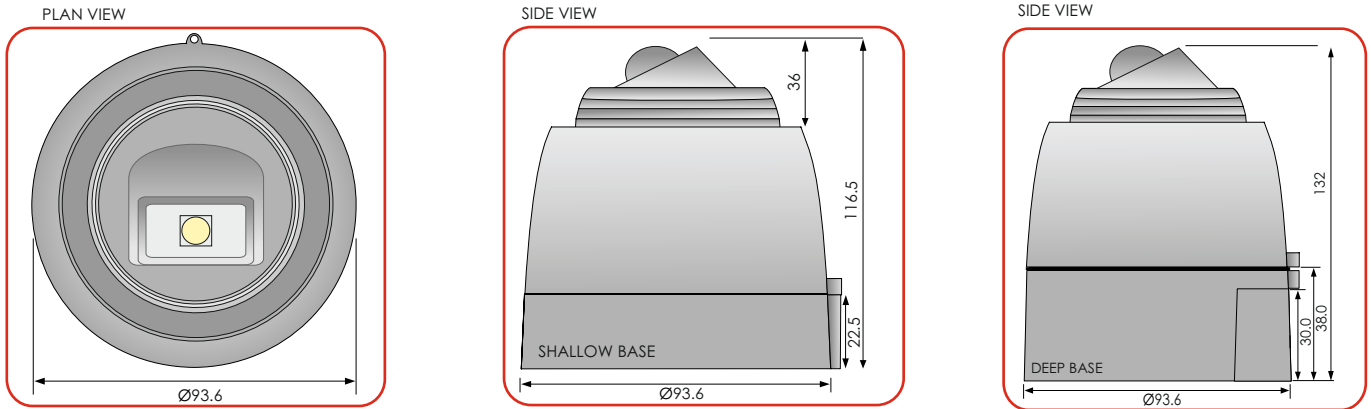
## APPROVALS INFORMATION

**EN54-3**
**EN54-23**

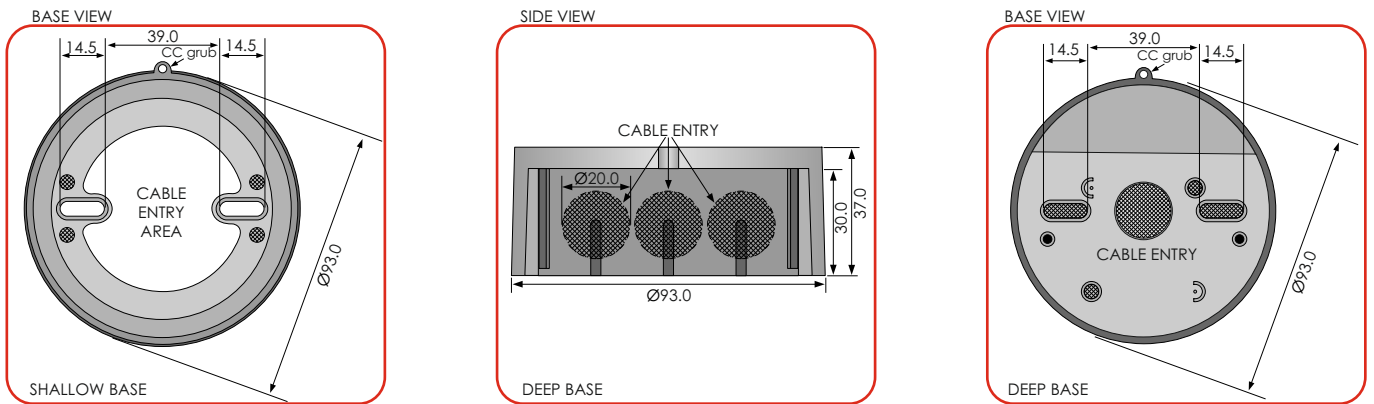
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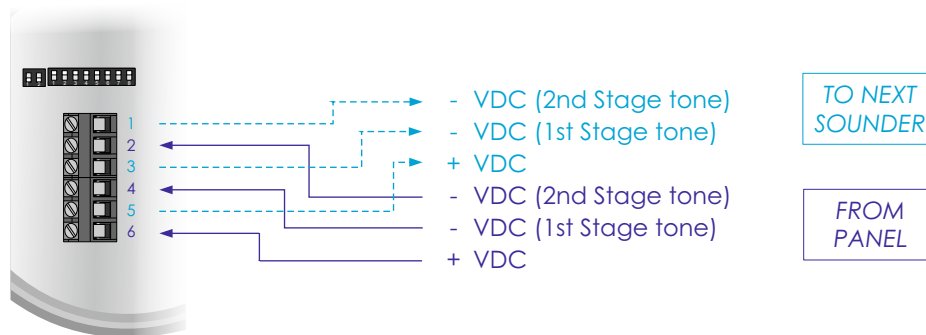
**DIMENSIONS**



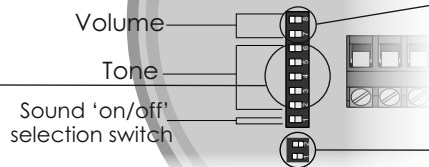
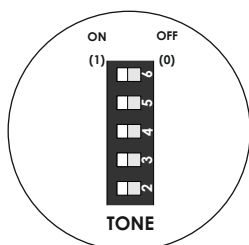
**PRODUCT MOUNTING & CABLE ENTRY**



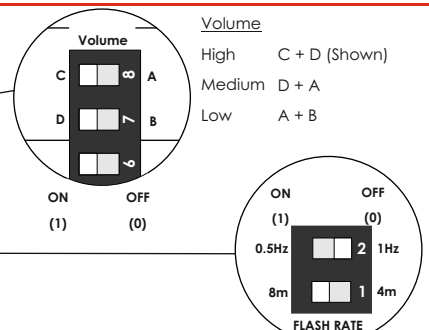
**WIRING CONFIGURATION**



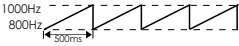













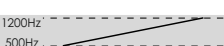
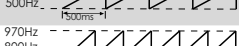
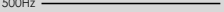
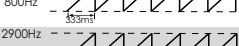

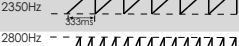


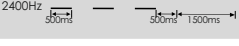
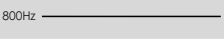

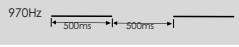
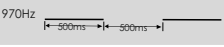




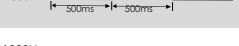










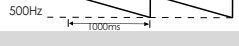
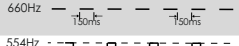


**TONE & VOLUME SELECTION**



**FLASH RATE & COVERAGE**



**TONE LIST - GRAPHICAL**
**Tones 1,8,11(Second Stage Tone),25 & 27 Approved to EN54-3**

| Switch (23456) | Nc. | Name                             | 1st Stage Frequency                                   | 1st Stage Graphical  | 2nd Stage Frequency                              | 2nd Stage Graphical  |
|----------------|-----|----------------------------------|---|--|--|--|
| 11111          | 1   | <b>LF Sweep (Cranford sweep)</b> | <b>800-1000Hz swept every 500ms (2Hz)</b>             |           | 800Hz continuous                                 | 800Hz     |
| 11110          | 2   | Alternative warble BS            | 800Hz for 250ms, then 960Hz for 250ms                 |           | 800Hz continuous                                 | 800Hz     |
| 11101          | 3   | Warble Tone BS                   | 800Hz for 500ms, then 1000Hz for 500ms                |           | 800Hz continuous                                 | 800Hz     |
| 11100          | 4   | Alternative warble BS            | 500Hz for 250ms, then 600Hz for 250ms                 |           | 500Hz continuous                                 | 500Hz     |
| 11011          | 5   | HF Back up Interrupted           | 2800Hz for 1000ms, then off for 1000ms                |           | 2800Hz continuous                                | 2800Hz    |
| 11010          | 6   | LF Back up Alarm                 | 800Hz for 150ms, then off for 150ms                   |           | 800Hz continuous                                 | 800Hz     |
| 11001          | 7   | HF Back up Interrupted           | 2800Hz for 150ms, then off for 150ms                  |           | 800Hz continuous                                 | 800Hz     |
| 11000          | 8   | <b>LF Continuous tone BS5839</b> | <b>800Hz continuous</b>                               | 800Hz     | 800Hz continuous                                 | 800Hz     |
| 10111          | 9   | Sweep - 1Hz                      | 800-900Hz swept every 1000ms (1Hz)                    |           | 800Hz continuous                                 | 800Hz     |
| 10110          | 10  | Australian slow whoop            | 970Hz for 625ms, then off for 150ms                   |           | 500-1200Hz for 3500ms, then off for 250ms        |           |
| 10101          | 11  | <b>Dutch sweep</b>               | 970Hz continuous                                      | 970Hz     | <b>500-1200Hz for 3500ms, then off for 500ms</b> |           |
| 10100          | 12  | Analogue sweep                   | 500-600Hz swept every 500ms (2Hz)                     |           | 500Hz continuous                                 | 500Hz     |
| 10011          | 13  | Sweep - 3Hz                      | 800-970Hz swept every 333ms (3Hz)                     |           | 800Hz continuous                                 | 800Hz     |
| 10010          | 14  | Alternate HF slow sweep          | 2350-2900Hz swept every 333ms (3Hz)                   |          | 2400Hz continuous                                | 2400Hz    |
| 10001          | 15  | Fast HF sweep                    | 2400-2800Hz swept every 143ms (7Hz)                   |         | 2400Hz continuous                                | 2400Hz  |
| 10000          | 16  | US Temporal Pattern LF           | 950Hz for 500ms on, 500ms off (x3), then 1500ms off   |         | 800Hz continuous                                 | 800Hz   |
| 01111          | 17  | Interrupted BS                   | 800Hz for 500ms, then off for 500ms                   |         | 800Hz continuous                                 | 800Hz   |
| 01110          | 18  | ISO 8201 LF BS5839 Pt 1          | 970Hz for 500ms, then off for 500ms                   |         | 970Hz for 500ms, then off for 500ms              | 970Hz   |
| 01101          | 19  | Interrupted medium               | 1000Hz for 250ms, then off for 250ms                  |         | 800Hz continuous                                 | 800Hz   |
| 01100          | 20  | ISO8201 HF                       | 2850Hz for 500ms, then off for 500ms                  |         | 2850Hz for 500ms, then off for 500ms             | 2850Hz  |
| 01011          | 21  | Continuous                       | 1000Hz continuous                                     | 1000Hz  | 1000Hz continuous                                | 1000Hz  |
| 01010          | 22  | LF Buzz                          | 800-950Hz swept every 9ms (110Hz)                     |         | 800Hz continuous                                 | 800Hz   |
| 01001          | 23  | HF Continuous                    | 2800Hz continuous                                     | 2800Hz  | 2800Hz continuous                                | 2800Hz  |
| 01000          | 24  | Sweep                            | 800-970Hz swept every 111ms (9Hz)                     |         | 800Hz continuous                                 | 800Hz   |
| 00111          | 25  | <b>German DIN tone</b>           | <b>1200-500Hz swept every 1000ms (1Hz)</b>            |         | 800Hz continuous                                 | 800Hz   |
| 00110          | 26  | Swedish Fire signal              | 660Hz for 150ms, then off for 150ms                   |         | 660Hz for 150ms, then off for 150ms              | 660Hz   |
| 00101          | 27  | <b>French tone AFNOR</b>         | <b>554Hz for 100ms, then 440Hz for 400ms</b>          |         | 800Hz continuous                                 | 800Hz   |
| 00100          | 28  | Swedish all clear signal         | 660Hz continuous                                      | 660Hz   | 660Hz continuous                                 | 660Hz   |
| 00011          | 29  | US Temporal Pattern HF           | 2900Hz for 500ms on, 500ms off (x3), then 1500ms off  |         | 2900Hz continuous                                | 2900Hz  |
| 00010          | 30  | Siren 2 way ramp (short)         | 500-1200Hz rising for 250ms, then falling for 250ms   |         | 800Hz continuous                                 | 800Hz   |
| 00001          | 31  | FP1063.1-Telecom                 | 800Hz for 250ms, then 970Hz for 250ms                 |         | 800Hz continuous                                 | 800Hz   |
| 00000          | 32  | Siren 2 way ramp (long)          | 500-1200Hz rising for 3000ms, then falling for 3000ms |         | 800Hz continuous                                 | 800Hz   |

## EN54-3 APPROVED MINIMUM SOUND OUTPUT AT 1 METRE - LOW VOLUME

**Tone 1 - Cranford Sweep Tone**

| Angle | Horizontal Plane dB(A) |       | Vertical Plane dB(A) |       |
|-------|------------------------|-------|----------------------|-------|
|       | Vmin                   | Vmax  | Vmin                 | Vmax  |
| 15°   | 67.23                  | 72.31 | 66.307               | 71.94 |
| 45°   | 67                     | 72.24 | 66.02                | 71.84 |
| 75°   | 75.06                  | 80.21 | 74.84                | 79.99 |
| 105°  | 75.45                  | 80.56 | 75.034               | 80.29 |
| 135°  | 66.46                  | 72.13 | 67.44                | 72.43 |
| 165°  | 67.53                  | 73.09 | 68.402               | 73.04 |

**Tone 8 - 800Hz Continuous Tone**

| Angle | Horizontal Plane dB(A) |       | Vertical Plane dB(A) |        |
|-------|------------------------|-------|----------------------|--------|
|       | Vmin                   | Vmax  | Vmin                 | Vmax   |
| 15°   | 65.27                  | 70.44 | 65.375               | 70.778 |
| 45°   | 65.08                  | 70.45 | 64.753               | 70.193 |
| 75°   | 74.81                  | 79.86 | 74.628               | 79.837 |
| 105°  | 75.06                  | 80.2  | 75.377               | 80.53  |
| 135°  | 66.24                  | 71.3  | 66.919               | 72.14  |
| 165°  | 65.99                  | 71.13 | 66.34                | 71.732 |

**Tone 11 - Dutch Sweep Tone**

| Angle | Horizontal Plane dB(A) |       | Vertical Plane dB(A) |        |
|-------|------------------------|-------|----------------------|--------|
|       | Vmin                   | Vmax  | Vmin                 | Vmax   |
| 15°   | 64.79                  | 70.38 | 64.189               | 69.689 |
| 45°   | 67.05                  | 72.6  | 66.63                | 72.164 |
| 75°   | 72.56                  | 78.13 | 72.293               | 78.226 |
| 105°  | 72.36                  | 77.94 | 72.236               | 77.918 |
| 135°  | 67.4                   | 72.84 | 67.588               | 72.567 |
| 165°  | 64.04                  | 69.4  | 64.683               | 69.633 |

**Tone 25 - German DIN Tone**

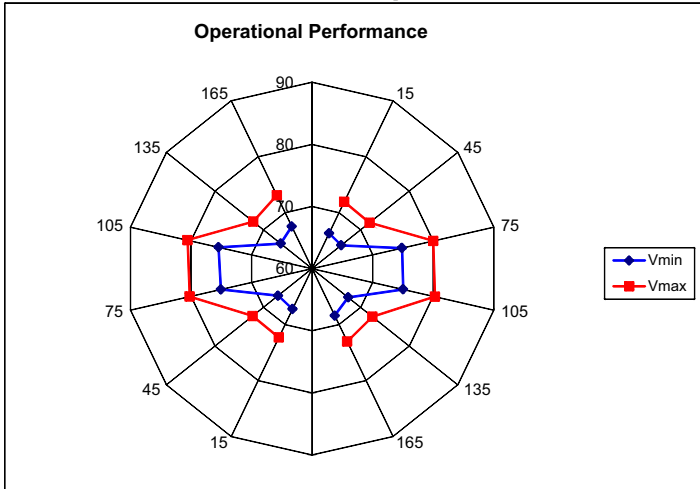
| Angle | Horizontal Plane dB(A) |       | Vertical Plane dB(A) |        |
|-------|------------------------|-------|----------------------|--------|
|       | Vmin                   | Vmax  | Vmin                 | Vmax   |
| 15°   | 65.84                  | 70.76 | 66.096               | 71.373 |
| 45°   | 66.62                  | 71.44 | 66.808               | 72.435 |
| 75°   | 74.9                   | 80.1  | 74.909               | 80.188 |
| 105°  | 75.16                  | 80.35 | 75.108               | 80.296 |
| 135°  | 68.04                  | 73.91 | 66.672               | 71.455 |
| 165°  | 67.21                  | 72.75 | 66.078               | 71.123 |

**Tone 27 - French AFNOR Tone**

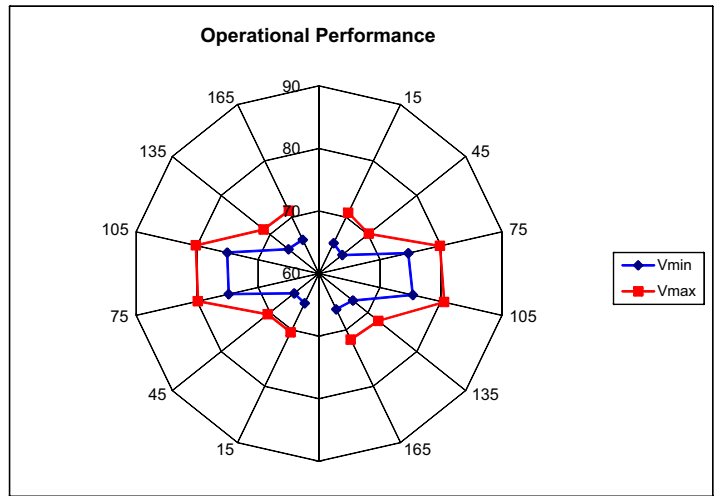
| Angle | Horizontal Plane dB(A) |        | Vertical Plane dB(A) |        |
|-------|------------------------|--------|----------------------|--------|
|       | Vmin                   | Vmax   | Vmin                 | Vmax   |
| 15°   | 64.851                 | 70.152 | 65.446               | 70.574 |
| 45°   | 65.384                 | 70.652 | 66.345               | 71.659 |
| 75°   | 74.374                 | 79.568 | 74.287               | 79.466 |
| 105°  | 74.815                 | 80.044 | 74.74                | 79.885 |
| 135°  | 66.633                 | 71.953 | 65.512               | 70.79  |
| 165°  | 65.633                 | 71.856 | 65.586               | 70.809 |

EN54-3 APPROVED POLAR DIAGRAMS - LOW VOLUME

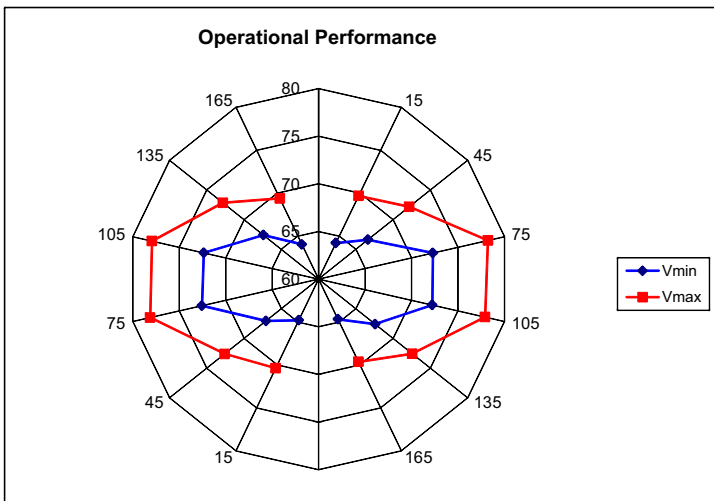
**Tone 1- Cranford Sweep Tone**



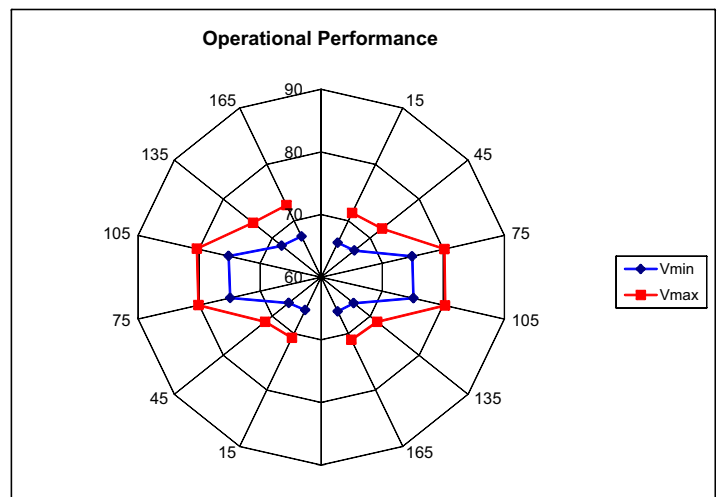
**Tone 8 - 800Hz Continuous Tone**



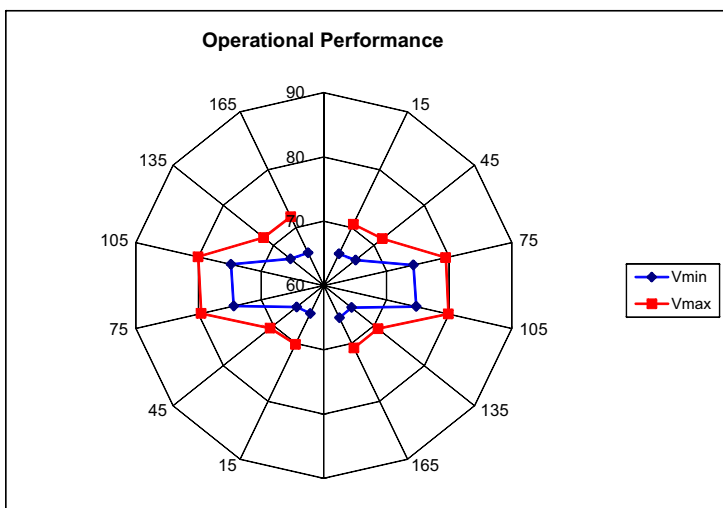
**Tone 11- Dutch Sweep Tone**



**Tone 25 - German DIN Tone**



**Tone 27 - French AFNOR Tone**



## EN54-3 APPROVED MINIMUM SOUND OUTPUT AT 1 METRE - HIGH VOLUME

**Tone 1 - Cranford Sweep Tone**

| Angle | Horizontal Plane dB(A) |       | Vertical Plane dB(A) |        |
|-------|------------------------|-------|----------------------|--------|
|       | Vmin                   | Vmax  | Vmin                 | Vmax   |
| 15°   | 85.81                  | 90.19 | 86.027               | 90.187 |
| 45°   | 86.12                  | 90.44 | 85.99                | 90.421 |
| 75°   | 93.95                  | 97.86 | 93.792               | 97.68  |
| 105°  | 94.29                  | 98.23 | 94.073               | 98.006 |
| 135°  | 86.26                  | 89.97 | 86.781               | 90.482 |
| 165°  | 86.86                  | 90.27 | 87.148               | 90.716 |

**Tone 8 - 800Hz Continuous Tone**

| Angle | Horizontal Plane dB(A) |       | Vertical Plane dB(A) |        |
|-------|------------------------|-------|----------------------|--------|
|       | Vmin                   | Vmax  | Vmin                 | Vmax   |
| 15°   | 84.44                  | 88.58 | 84.557               | 88.772 |
| 45°   | 84.74                  | 89.05 | 84.003               | 88.371 |
| 75°   | 93.65                  | 97.66 | 93.331               | 97.523 |
| 105°  | 93.77                  | 97.76 | 94.094               | 98.397 |
| 135°  | 84.73                  | 88.76 | 86.308               | 89.952 |
| 165°  | 85.14                  | 89.14 | 85.856               | 89.834 |

**Tone 11 - Dutch Sweep Tone**

| Angle | Horizontal Plane dB(A) |       | Vertical Plane dB(A) |        |
|-------|------------------------|-------|----------------------|--------|
|       | Vmin                   | Vmax  | Vmin                 | Vmax   |
| 15°   | 84.1                   | 88.02 | 84.001               | 88.009 |
| 45°   | 86.36                  | 90.29 | 86.608               | 90.615 |
| 75°   | 92.2                   | 96.55 | 92.566               | 96.673 |
| 105°  | 92.13                  | 96.46 | 92.154               | 96.288 |
| 135°  | 87.28                  | 91.13 | 86.304               | 90.417 |
| 165°  | 83.92                  | 87.66 | 83.191               | 87.09  |

**Tone 25 - German DIN Tone**

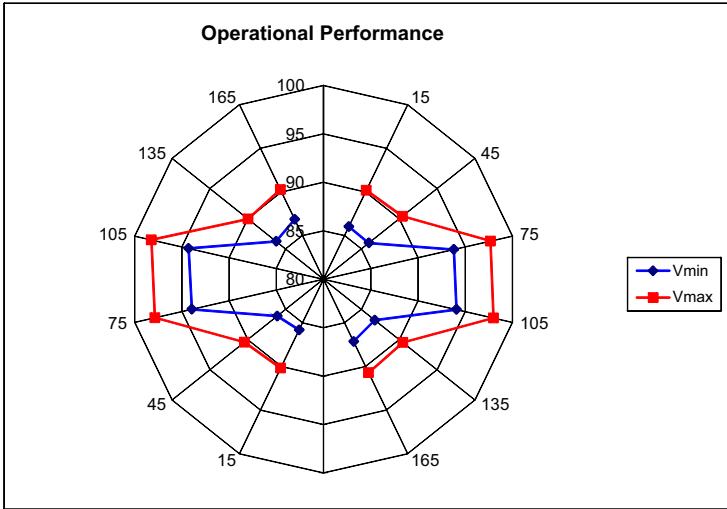
| Angle | Horizontal Plane dB(A) |       | Vertical Plane dB(A) |        |
|-------|------------------------|-------|----------------------|--------|
|       | Vmin                   | Vmax  | Vmin                 | Vmax   |
| 15°   | 84.54                  | 89.22 | 85.44                | 86.313 |
| 45°   | 85.28                  | 90.34 | 86.347               | 90.513 |
| 75°   | 93.73                  | 97.77 | 93.749               | 97.762 |
| 105°  | 93.95                  | 97.94 | 93.867               | 97.938 |
| 135°  | 87.42                  | 90.63 | 85.423               | 89.779 |
| 165°  | 86.62                  | 90.15 | 84.935               | 89.147 |

**Tone 27 - French AFNOR Tone**

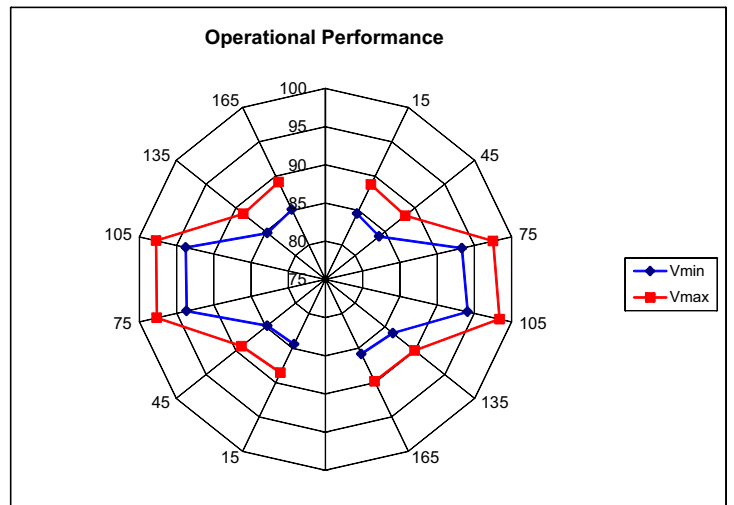
| Angle | Horizontal Plane dB(A) |        | Vertical Plane dB(A) |        |
|-------|------------------------|--------|----------------------|--------|
|       | Vmin                   | Vmax   | Vmin                 | Vmax   |
| 15°   | 83.882                 | 87.869 | 84.065               | 87.15  |
| 45°   | 84.874                 | 88.892 | 85.368               | 88.477 |
| 75°   | 93.03                  | 96.879 | 92.758               | 96.602 |
| 105°  | 93.291                 | 97.227 | 93.179               | 97.203 |
| 135°  | 85.4                   | 89.357 | 84.831               | 89.456 |
| 165°  | 84.776                 | 88.691 | 84.429               | 88.592 |

EN54-3 APPROVED POLAR DIAGRAMS - HIGH VOLUME

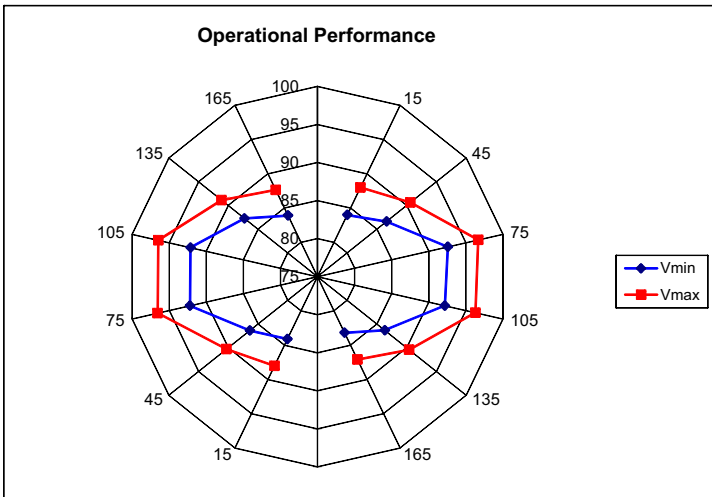
**Tone 1- Cranford Sweep Tone**



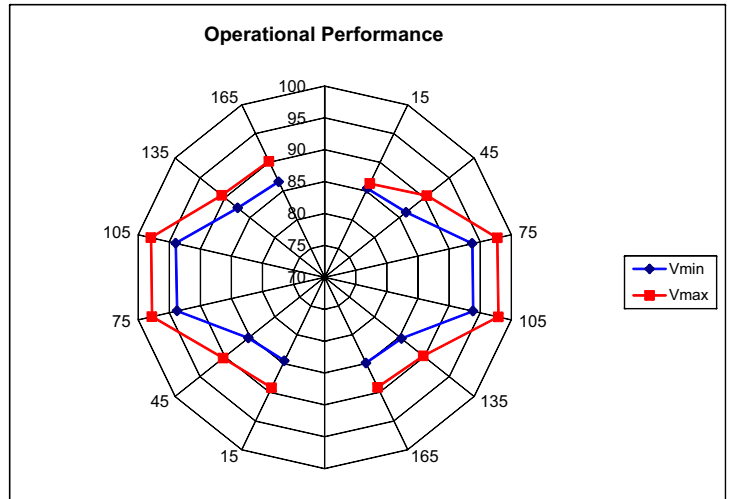
**Tone 8 - 800Hz Continuous Tone**



**Tone 11- Dutch Sweep Tone**



**Tone 25 - German DIN Tone**



**Tone 27 - French AFNOR Tone**

