

## Product Description

For very high SPL applications, the POWERV15 delivers extended frequency response with high sound pressure levels, extremely low distortion, outstanding clarity, crystal clear intelligibility, definition and detail from its Tannoy PowerDual™ drive unit. Optimised for use where such higher output levels are required for live sound reinforcement, high quality public address or large scale music reinforcement installations.

The high frequency and mid bass sections of the 380mm (15.00") point source, constant directivity PowerDual™ use voice coils and dual magnet assemblies significantly larger than those in the standard Dual. This increases efficiency, power handling and output SPL, while coincidental alignment to a point source ensures the high frequency and mid bass sections deliver a smooth, uniform frequency response over a wide coverage area. Something unachievable with discrete two-way designs in the vertical plane, as massive cancellations appear off axis at the crossover frequency. The Tulip WaveGuide™ on the high frequency unit, reinforced paper mid bass cone and double rolled cambric surround all contribute to high sensitivity. 75 degree conical dispersion of the PowerDual™ allows either vertical or horizontal mounting without compromising sound quality

Delivering impressive levels of accuracy and performance, the POWERV15 is equipped with a highly efficient, flexible and reliable Class D power amplifier incorporating a switching power supply. The amplifier section and power supply were developed simultaneously and therefore optimally matched to minimise noise and enhance stability. The power module combines light, efficient and cool-running amplification, comprehensive driver protection and equalisation into a single compact unit. Clean, undistorted sound is delivered, even when driven at very high power levels. No cooling fans are required so the system runs quietly and is not prone to internal dust contamination.

All signal processing functions have been precisely tailored; crossover frequencies and slopes, EQ, phase corrections and limiting. LED's on the rear panel indicate signal presence, signal activity, and power. Signal input and audio link are via XLR, while the mains connector is a Neutrik locking Powercon type. A switch on the rear panel of the full range models allows selection between Full Range or High Pass modes, with High Pass allowing a speaker to be mounted in close proximity to a boundary or simply to increase headroom. High pass mode also enables a simple top box and subwoofer combination to be created without the need for an external crossover. Two low pass setting options on the subwoofer amplifiers fully optimise integration with the full range units.

This versatile powered speaker also has, due to effective acoustic matching to the other POWERV models, a wide range of uses in fully integrated installations as diverse as nightclub infill, theme bars, performing arts centres, high quality public address, theme parks, leisure venues, audio visual, houses of worship, multi use stadiums and 'dry hire' rental.

Available in black or white, the asymmetric cabinet profile is flexible and discreet in either fixed installations or on the road.

## Features

- High output, extended frequency response PowerDual™ is a full range, point source, constant directivity drive unit
- Controlled conical dispersion for optimum coverage and forward gain
- Compact, versatile enclosures
- Rugged, highly efficient Class D amplification with universal power supply
- Integral carry handles
- Multiple flying points and accessory mounting hardware options

## Applications

- Nightclub infill
- Theme bars
- Performing arts centres
- High quality public address
- Live sound reinforcement
- Theme parks
- Leisure venues
- Audio visual
- Houses of worship
- 'Dry hire' rental

Tannoy United Kingdom  
 Tannoy North America  
 Tannoy Deutschland  
 Tannoy France

T: 00 44 (0) 1236 420199  
 T: 00 1 (519) 745 1158  
 T: 00 49 (180) 1111 881  
 T: 00 33 (0)1 7036 7473

E: enquiries@tannoy.com  
 E: inquiries@tannoyna.com  
 E: anfragen@tannoy.com  
 E: ventes@tannoy.com

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# POWERV15

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## TECHNICAL SPECIFICATIONS

System	POWERV15	
<b>System Type</b>	Full Range - Vented	
<b>Frequency Response (-3dB) <sup>(1)</sup></b> Full Range Mode	60Hz - 23kHz	
<b>Frequency Range (-10dB) <sup>(1)</sup></b> Full Range Mode	47Hz - 26kHz	
<b>Frequency Response (-3dB) <sup>(1)</sup></b> High Pass Mode	100Hz - 23kHz	
<b>Frequency Range (-10dB) <sup>(1)</sup></b> High Pass Mode	80Hz - 26kHz	
<b>Dispersion (-6dB)</b>	75 degrees conical	
<b>Driver Complement</b>	380mm (15.00") PowerDual™	
<b>Crossover</b>	Passive 1.4kHz	
<b>Directivity Factor (Q)</b>	7.8 averaged 1kHz to 10kHz	
<b>Directivity Index (DI)</b>	8.9 averaged 1kHz to 10kHz	
<b>Rated Maximum SPL <sup>(2)</sup></b>		
Average	126dB	
Peak	132dB	
<b>Distortion</b>		
<b>10% Full Power (8.9V)</b>	2nd Harmonic	3rd Harmonic
250Hz	1.00%	0.50%
1kHz	1.40%	1.00%
10kHz	3.98%	1.78%
<b>1% Full Power (2.8V)</b>	2nd Harmonic	3rd Harmonic
250Hz	0.32%	0.45%
1kHz	0.45%	0.79%
10kHz	3.16%	0.31%

### PSU Specifications

Input Connector	Locking Neutrik Powercon
Voltage Selection	Automatic (115 / 230V, 45 - 65Hz)
Switching Frequency	192kHz Synchronised to DSP
Type	High current, high frequency switch mode
Efficiency	>90% typical
Input voltage	100v / 115v / 230v nominal +/-10%
Mains fuse	External
Fuse type	T10AT
Other features	Automatic soft start

#### Notes:

- (1) Average over stated bandwidth. Measured at 1 metre on axis.  
 (2) Unweighted pink noise input, measured at 1 metre in an anechoic chamber

A full range of measurements, performance data, CLF and Ease™ Data can be downloaded from [www.tannoy.com](http://www.tannoy.com)

Full independent verification of published specifications carried out by NWA Labs, California can also be obtained from the downloads section of [www.tannoy.com](http://www.tannoy.com)

Tannoy operates a policy of continuous research and development. The introduction of new materials or manufacturing methods will always equal or exceed the published specifications, which Tannoy reserves the right to alter without prior notice. Please verify the latest specifications when dealing with critical applications.

### Ordering Information

PART NUMBER	MODEL NAME	COLOUR	PACKED QUANTITY
8001 4290	POWERV15	Black	1
8001 4291	POWERV15	White	1

### Construction

<b>Enclosure</b>	62 litre vented and internally braced 15mm (0.62") birch plywood cabinet 15mm (0.62") MDF front baffle
<b>Finish</b>	Textured black or white paint with custom colours on request Powder coated steel grille with reticulated foam behind
<b>Connectors</b>	1 x female XLR (input) 1 male XLR (link) 1 x Neutrik Powercon
<b>Controls &amp; Indicators</b>	Level control Power LED (Blue) Signal LED (Green) Limit LED (Red) Full range / High pass switch (110Hz) Power switch
<b>Fittings</b>	8 x M10 flying inserts 8 x M10 yoke bracket inserts 3 x recessed carrying handles (2 side & 1 rear) Blanking plate for optional VTH pole mount
<b>Dimensions (H x W x D)</b>	590 x 450 x 420mm (23.23 x 17.72 x 16.54")
<b>NET Weight</b>	35kg (77lbs)

### Electronics

Maximum signal input for clip	Input attenuator at minimum - +18dBu Input attenuator at Maximum - +5dBu
Output noise	-105dB unweighted, referenced to maximum output (22kHz bandwidth)
Efficiency	>90% typically
Damping Factor	400 ref 8 Ohms
Distortion	<0.05% @ 1kHz -3dB output (22kHz bandwidth)
Input Impedance	5.6k Ohms unbalanced, 11.2k Ohms balanced
Protection systems	Over Current Excessive over current causes shutdown Temperature Limiters applied Brownout Automatic protection & recovery Mains Inrush current limiting Indicators 1x Limit LED, 1x Signal LED & 1x Power LED
Number of channels	One
System Type	Class D

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 Tannoy North America  
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 T: 00 1 (519) 745 1158  
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 T: 00 33 (0)1 7036 7473

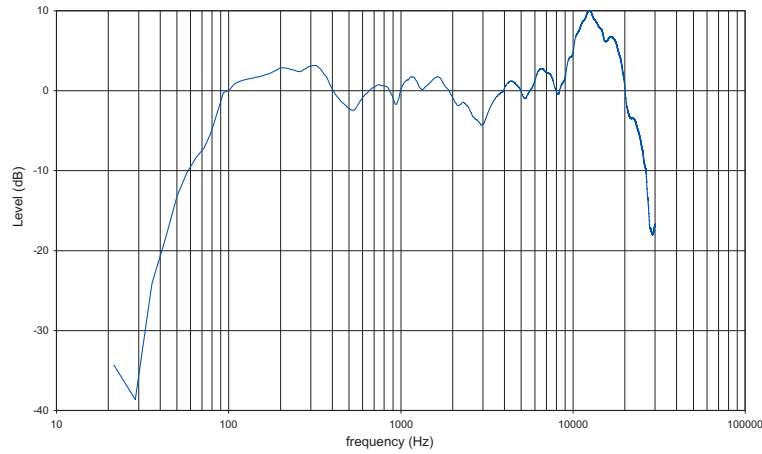
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 E: [inquiries@tannoyna.com](mailto:inquiries@tannoyna.com)  
 E: [anfragen@tannoy.com](mailto:anfragen@tannoy.com)  
 E: [ventes@tannoy.com](mailto:ventes@tannoy.com)

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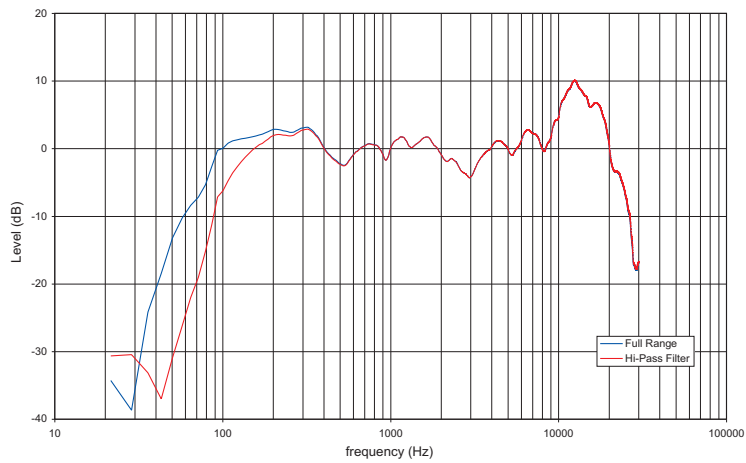


## PERFORMANCE MEASUREMENTS

1m on-axis frequency response

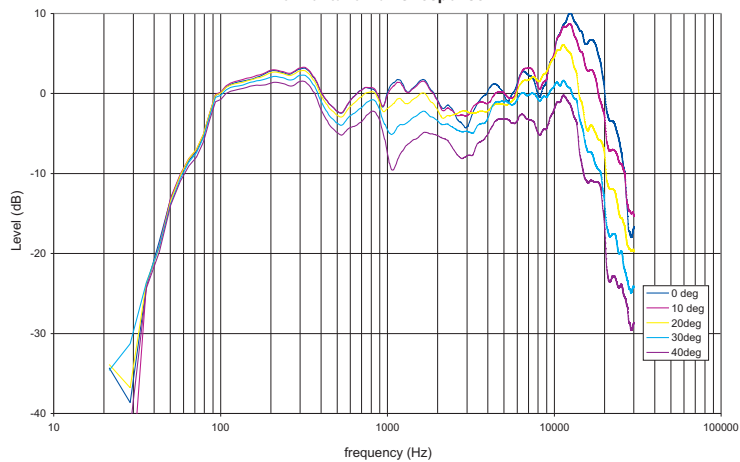


ANECHOIC  
FREQUENCY  
RESPONSE



HIGH PASS FILTER ON/OFF

Horizontal off-axis response



OFF AXIS  
RESPONSE

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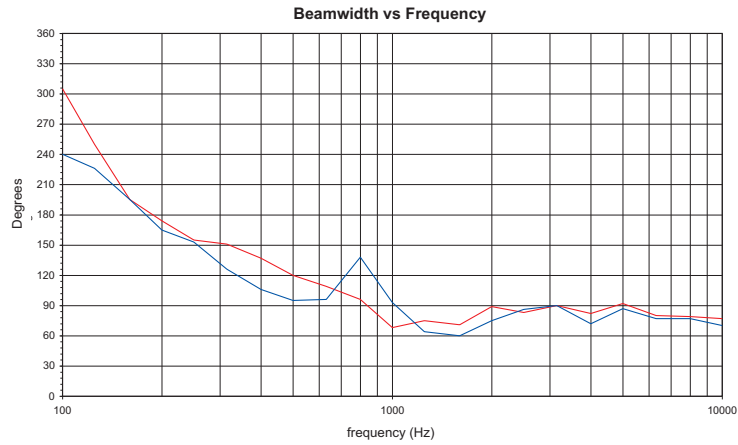
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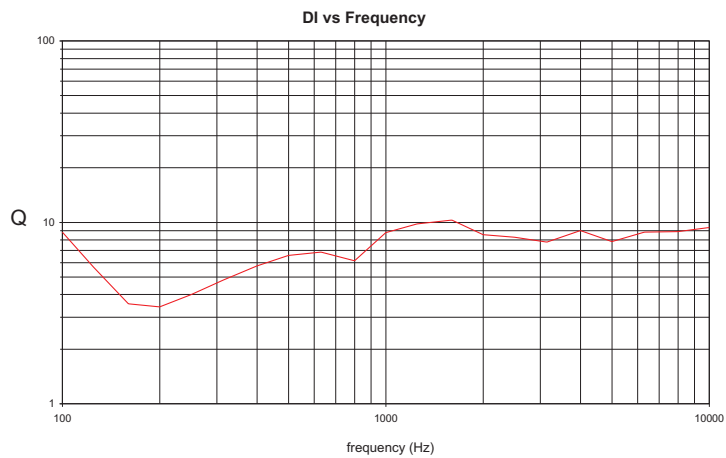
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## PERFORMANCE MEASUREMENTS



BEAMWIDTH



DIRECTIVITY INDEX

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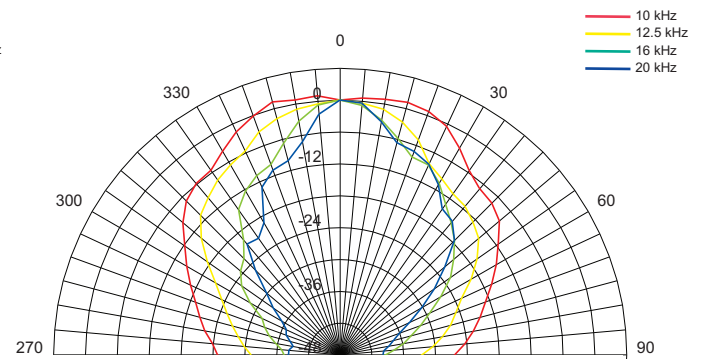
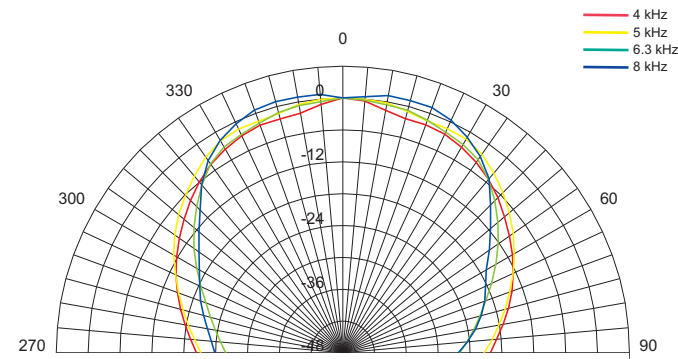
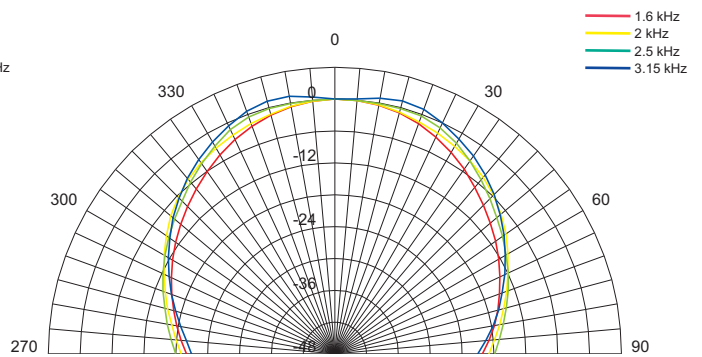
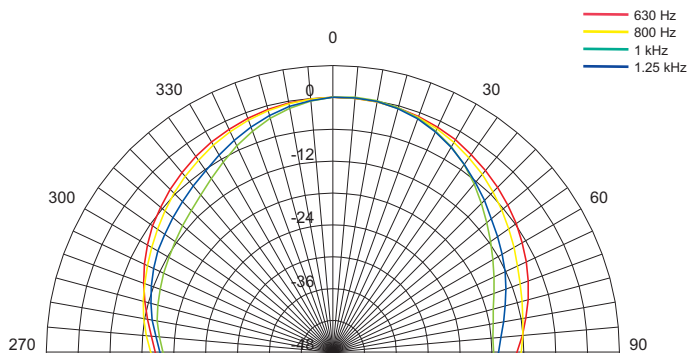
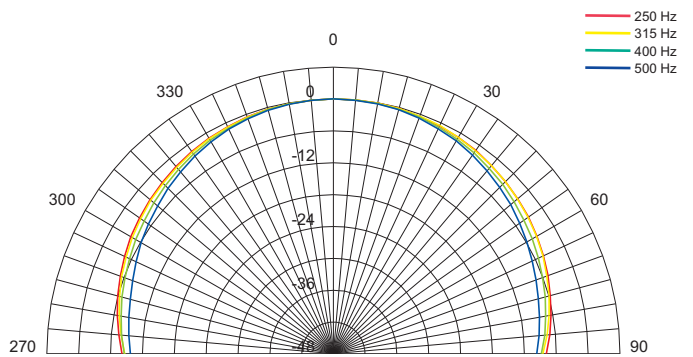
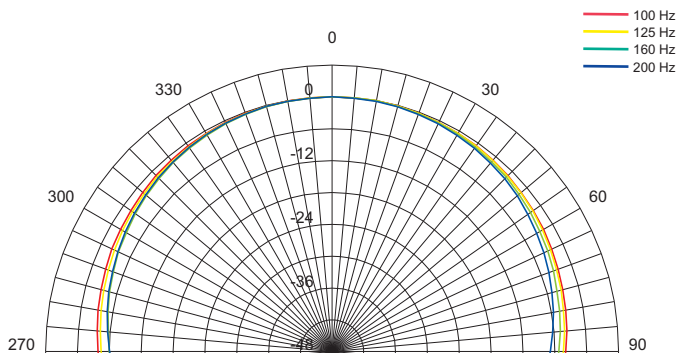
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E: enquiries@tannoy.com  
E: inquiries@tannoyna.com  
E: anfragen@tannoy.com  
E: ventes@tannoy.com

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## PERFORMANCE MEASUREMENTS POLAR PLOTS (1/3 OCTAVE)



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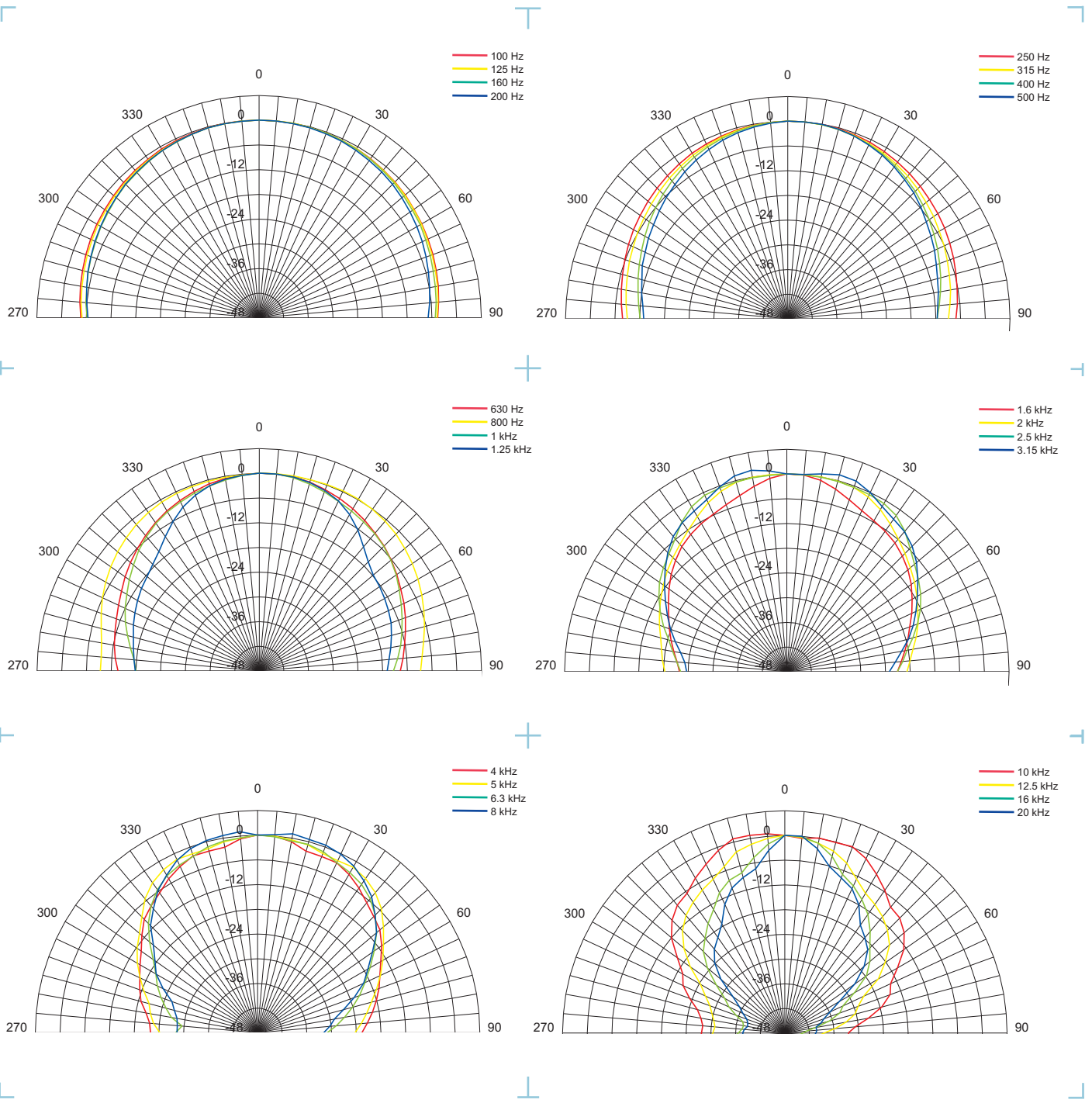
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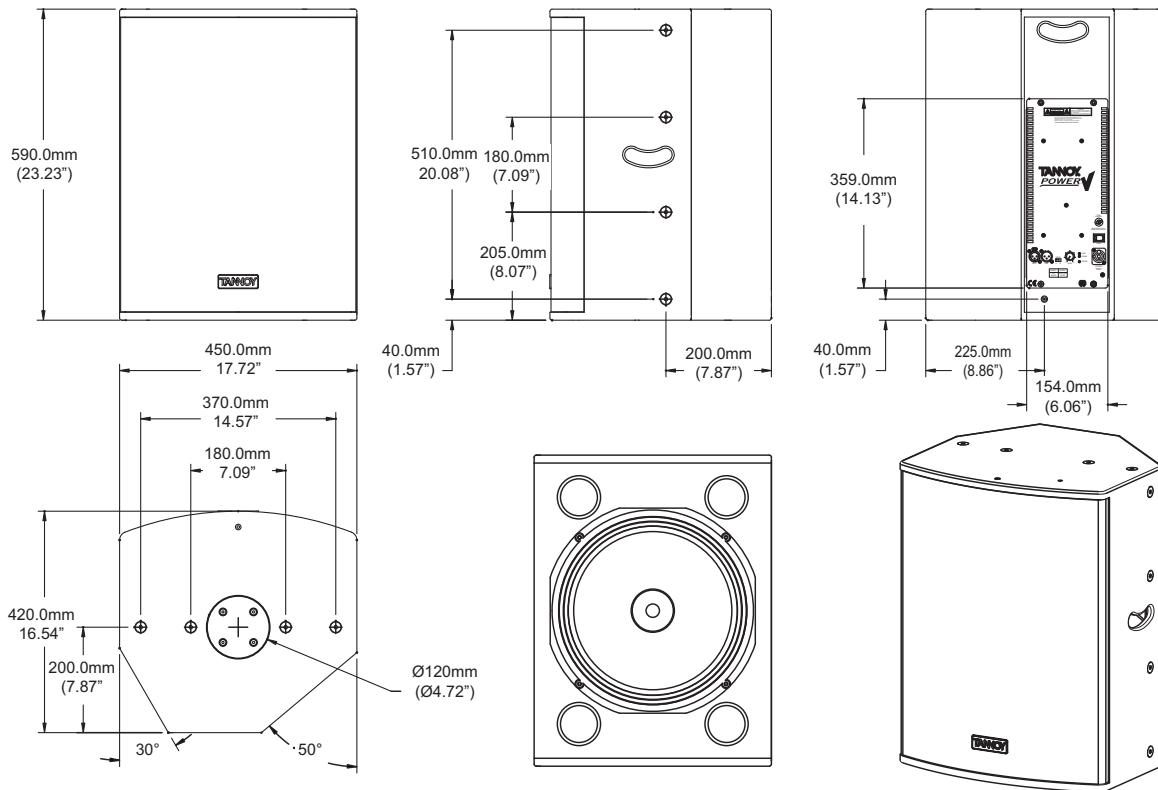
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# POWERV15

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## DIMENSIONAL SKETCHES



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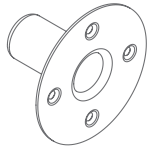
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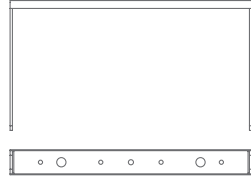
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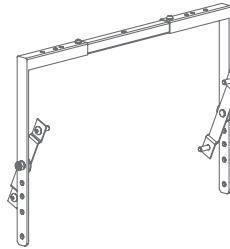
## OPTIONAL ACCESSORIES & MOUNTING OPTIONS



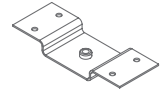
VTH



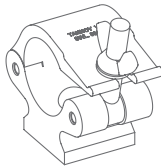
V15Y



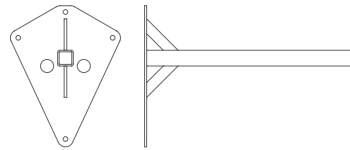
VMY



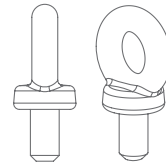
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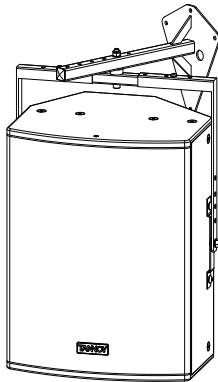
VPC



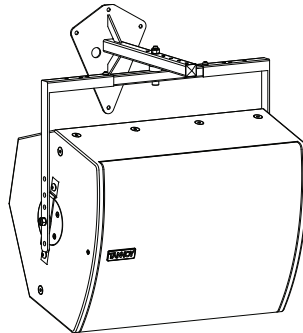
VMB



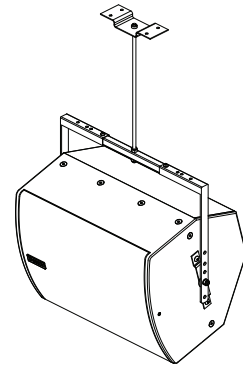
VEB



POWERV15 + VMY + VMB



POWERV15 + VMY + VMB Horizontal



POWERV15 + VMY + VCS

### Ordering Information

PART NUMBER	MODEL NAME	COLOUR	PACKED QUANTITY
8001 3190	V15Y	Black	1
8001 3191	V15Y	White	1
8001 2780	VMY	Black	1
8001 2790	VMY	White	1
8001 2800	VMB	Black	1
8001 2810	VMB	White	1
8001 2820	VEB	-	1
8001 2830	VCS	Black	1
8001 2840	VCS	White	1
8001 2860	VTH	Black	1
8001 2870	VTH	White	1
8001 2850	VPC	-	1

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## Architectural specifications

The loudspeaker shall consist of a 380mm (15.00") full range, point source PowerDual™ transducer. The low and high frequency elements shall be driven by an integrated single channel Class D amplifier through an internal passive crossover network operating at 1.4kHz.

Performance of the loudspeaker shall meet or exceed the following criteria: Frequency response measured at 1 metre on axis with swept sine wave shall be 60Hz to 23kHz (-3dB) in full range mode and 100Hz to 23kHz in high pass mode. Rated average SPL shall be 126dB (anechoic) on axis at 1 metre. The dispersion of the loudspeaker shall be 75 degrees conical (-6dB).

The enclosure shall be an optimally tuned 62 litre vented 15mm (0.62") birch ply cabinet with 15mm (0.62") MDF front baffle. Connectors shall be 1 x female XLR (input), 1 x male XLR (link) and 1 x Neutrik Powercon. The speaker shall be fitted with the following controls and indicators: level control, blue power LED, green signal LED, red limit LED, full range / high pass switch (110Hz) and a power switch. The enclosure shall be fitted with 8 x integral M10 inserts for flying hardware and 8 x M10 yoke bracket inserts. There shall be 3 carry recessed handles and blanking plate for an optional pole mount adaptor.

The enclosure shall not exceed the following dimensions: 590 x 450 x 420mm or 23.23 x 17.72 x 16.54" (H x W x D).

The loudspeaker shall be the Tannoy... POWERV15.

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