

PROFESSIONAL LOUDSPEAKERS



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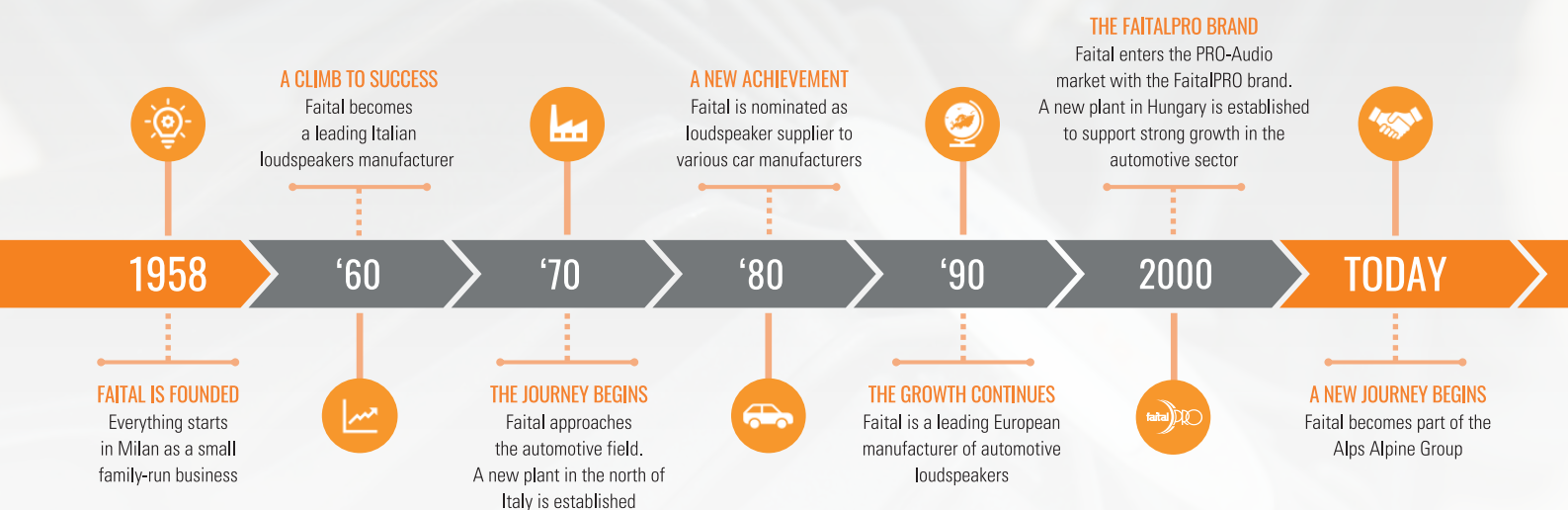


SOUND IS BEAUTY AND EMOTION

Vibrations moving through the air taking completely the mind. Amplifying these emotions for FaitalPRO is a commitment which goes beyond professionalism. It's an inborn passion: the privilege of working in an environment that IS art, genius and excitement and which is corresponded by FaitalPRO with precisely the same enthusiasm, respect and admiration.

A BIT ABOUT US

Faital's history reflects constant development and growth over the last 60 years. The various milestones that have been achieved since the Company was established in 1958 have allowed it to become an important point of reference in the world markets.



TODAY

Holding strong to the fundamental passion for good sound driving its evolution since inception, Fital incessantly pursues its core values, Technological Development, Total Quality, Customer Service and Competitiveness.

FitalPRO is an affirmed brand of Professional Loudspeakers specifically designed for the most demanding Professional Audio applications and manufactured combining superb craftsmanship with the latest industrial technologies. FitalPRO stands for superior loudspeakers, expressing the highest standards of reliability and sound quality available on the market today.

1960s



Fital S.p.A. is founded in Milan in 1958 as a small family-run business. At the end of the 60s, Fital becomes one of the main Italian loudspeaker manufacturers, accounting for 40% of national demand. Fital initially manufactures loudspeakers for radios and audio systems and later introduces its products into the market for television amplifier systems. As a result of constant technical and business development, the company gradually expands to cover many areas of industry.

1970s



Fital enters the automotive field and ventures beyond national boundaries with their first European clients. In order to satisfy increasing market demand and their new European clients, in 1974 the company opens a new plant in Chieve, near Crema, Italy.



1980s



The growth trend continues. Fital becomes the official loudspeaker supplier to various car manufacturers. The company undertakes an innovation and technological development process with investments aimed at updating plants and enhancing the areas of R&D and Human Resources. The company commits to TOTAL QUALITY and sets their main objective as "Zero Defects".

1990s



In the early 1990s, Sofaital S.A. is established in France and a new plant is opened, in Argenteuil, near Paris. A few years later, FAITAL contributes to the establishment of a new manufacturing facility in Vacarisses, Spain near Barcelona. With the addition of Sofaital in France and Fabrica Iberica in Spain, the Fital Group becomes the leading European manufacturer of loudspeakers for the automotive industry. The Group considers with increasing interest the possibility of entering the North American market.

EARLY 2000s

In the new millennium, the company enters the North American market and begins to meet local market requirements. Fital consolidates its achievements after almost half a century in business. In order to enter the North American automotive market successfully, the company establishes a commercial office and a new warehouse in New Jersey to provide logistical support to its clients. Similarly, to increase its capacity and competitiveness, Fital establishes a new manufacturing facility in Hungary and a new sales & logistics center in Hong Kong to support its Asian clients.

The early 2000s also mark the beginning of a diversification strategy for Fital that leads to the development of the FitalPRO brand.

HOW WE DO WHAT WE DO

R&D AND MANUFACTURING BY FAITAL

Every FaitalPRO driver is meticulously designed using the latest CAD and FEA modelling techniques. All electro-acoustic and mechanical performances are simulated and then carefully studied by a team of "sound fanatic" engineers. The individual parts of each loudspeaker are directly designed in this way, in order to ensure that the end product will meet the Client's electro-acoustic and environmental requirements and special attention is given to compliance of the finished product with environmental requirements and international standards.

Design

Creating a loudspeaker system involves a combination of design, technology and sensory considerations. Emotions, communicated by listening to an audio system, are the result of a complex process. Faital's Research and Development laboratory is a centre of excellence in the fields of research, planning, development, testing and support for the manufacture of loudspeaker systems.

In the following pages, Faital will take you on a guided tour of the various stages involved in manufacturing its products, which is undoubtedly part of one of the most advanced processes in the industry. You will be able to experience first-hand the commitment, expertise and quality that underline each of our products.

OEM Co-Design

The major component of an audio system is the enjoyment that it transmits to the end user. This is the result of work that begins early on, once design models are ready. Initially customers' requirements are clearly defined. Therefore, Faital works in synergy with the customers right from the beginning. A number of meetings are required with the customer and the other suppliers involved in the project, in order to outline an initial concept of what the loudspeaker system will be like. A work group is set up within Faital, with representatives from all company departments, including design, sales, purchasing, quality, production and logistics. Based on their work, valuable suggestions will be proposed to the customer during the project, as well as strict quality control criteria at each stage of the project. Firstly the type, number and size of loudspeakers in the audio system need to be determined, as well as their position in relation to listeners in a room or in an open environment. The performance of the sound system will largely depend on this positioning, which is often the result of an optimisation based upon the customer design choices and needs.

CAD System

At the design stage, work begins on drawing individual loudspeakers and their specific components using three-dimensional modeling software. In order to do this, both Faital and the customer can use compatible software and quickly exchange files containing the drawings. Faital currently has 8 workstations and is able to carry out drawings using three different CAD systems: CATIA, Autocad and NX. At the same time, an electro-acoustic simulation of the various loudspeakers in development is carried out using "Finite Element Analysis" software based on the required physical and dimensional parameters, this way their acoustic performance can be predicted before they are built in the laboratory. The materials and single components that will be used are also tested using engineering simulation software. Faital has also acquired over the years the ability to create a feedback system that enables the R&D dept to feed actual performance data into the FEA system which in turn is constantly becoming more precise and reliable.



Prototyping

When the process of drawing and defining the technical characteristics of the various parts of the new models designed has been sufficiently consolidated, Faital builds the first version of the loudspeakers. This phase is achieved by the construction of pilot tools or the use of rapid prototyping techniques, such as laser sintering of baskets, so that parts very similar to the final ones can be quickly assembled.

The first prototypes can then be measured to verify that all electrical and acoustic parameters comply with the initial design specifications. At this stage the work-group assigned to the project, co-ordinated by the project leader, can predict reliability problems in the final product using third-generation DFMEA methods. In addition, aspects relating to the industrial manufacturing of individual parts can be assessed, providing an initial outline of production flow and defining any special manufacturing equipment that will be required.

This verification stage is extremely important because, in addition to allowing the required adjustments and changes to be made to the loudspeaker designs, it provides an opportunity to present useful suggestions to the R&D dept or the customer for improving the overall product and the final application.

All problems arising at this point and any changes that need to be made to individual parts are discussed at constant inter-functional progress meetings. This allows to assess their possible impact, both economic and industrial making use of advanced PFMEA's for a detailed reliability evaluation, all the while ensuring that development deadlines are met. At this stage the customer can also be involved so that any changes to the initial technical requirements can be evaluated and agreed upon.

Off Tool Parts

Once this stage has been completed, work can start on the production of final tools and equipment for the manufacture of all parts. Attention is now focused on second-level suppliers and production methods: purchasing, quality of suppliers and production methods, play an important role in this stage. At the proposed production plant an initial review of the manufacturing process for the loudspeaker being developed is carried out. This allows control plans and production flow process to be optimized by clearly identifying process variables. On receiving final of tool parts and equipment, the supplier quality department and the laboratory carry out a key role once again. While the laboratory undertakes manual assembly of all loudspeakers required for the audio system in order to verify their compliance with project specifications, the quality department "certifies" the quality of supplies. This is carried out using the pre-series products in accordance with similar criteria as to that required by the end customer. This process continues even after mass production start up and is based on a continuous performance-monitoring plan.



Acoustic Testing

In addition to instrumental testing, the prototypes produced in the laboratory are also subjected to a series of tests ranging from installation testing to dimensional compatibility, as well as verifying their acoustic performance. Final adjustments could still be possible at this stage by fine tuning and implementing minor changes, this way the final characteristics of the manufactured product can be finally set. Sound is evaluated by tests using instruments and through a series of listening sessions carried out by specially trained engineers. Carefully selected pieces of music are used in order to highlight specific features of the audio system's acoustic performance. The listening tests are also compared with audio recordings that have been made in a reference environment, such as a state of the art listening room.

Pre-Series Production

When the results that have been achieved are considered satisfactory of all technical requirements, a pre-series production is undertaken at the manufacturing plant chosen for the project. This allows for verification that the products manufactured in the final production process comply with the initial project specifications. Pre-series production, which is carried out using the final manufacturing equipment and components on the proposed manufacturing line is also subjected to product and process validation carried out by the R&D laboratory. This marks the beginning of product and process validation both of which aspects are subject to careful quality control. At this point the plant committee, along with the engineers from the R&D laboratory, carries out an initial review of the effectiveness of the production processes that had been previously planned. At this stage a verification is carried out to ensure that process variables are under control, based on accurate measurements and using appropriate statistical methods. Any deviations or problems that are found generate immediate feedback regarding the project, in addition to the necessary corrective action being taken in relation to the product, processes and suppliers.



Validation Testing

The loudspeakers from the pre-series production are also used for validation testing, which is carried out by Faital's R&D dept. The tests used to verify the reliability and performance of loudspeakers during their lifecycle vary enormously from customer to customer and from application to application. Faital, having acquired an invaluable experience in this area, is able to share its know-how with customers by suggesting the most appropriate solutions and methods if needed. Faital has for some time implemented a series of routine activities for the validation process of products; these activities include salt fog tests, life tests, temperature shock, humidity, UV exposure and vibration test either carried out singularly or combined together, as well as all the most advanced electro-acoustic measurements, including linear parameters measurement, large signal identification, thermal behaviour, suspension part measurement and scanning vibrometer systems. All these activities result in a detailed report completing the validation phase.



Production

The project has been completed. From this point on, the production department is responsible for ensuring that production volumes required are met and verified using R@R (Run @ Rate) tests, in accordance with product characteristics set in the project specifications. Production processes are verified and optimized through continuous quality control on the production line. All loudspeakers manufactured by the Faital group are fully checked at the end of the assembly line. Loudspeakers are tested individually also using proprietary computerized equipment, which verifies in real time six electro-acoustic parameters relating to nominal use conditions specific to each product. Defective items are always set aside for careful analysis and possible feedback to the R&D dept. Quality Assurance and the Plant Committee continuously monitor production progress. In the case of non-conformities or deterioration in the level of production rejects, corrective actions, either internal or relating to suppliers, are identified and implemented. In addition, a general management committee oversees the progress of all Faital plants globally, in order to ensure that a uniform level of product quality is achieved wherever a product is manufactured. Most of a product is emotion and Faital ensures the emotion of a perfect sound.

FaitalPRO Products

The use of NdFeB throughout the entire range of FaitalPRO drivers allows for an important weight reduction. In fact, when confronting ferrite and NdFeB magnets with the same magnetic induction in the gap, the results show that NdFeB transducers weigh from 3 to 6 times less than ferrite. This aspect is an evident advantage for manufacturers of speaker boxes allowing them to design products that are easier to move and to implement in projects with simpler structures for speaker support and fixing points. The same concept can be considered for Line Array applications that use numerous transducers in modular blocks. The complete FaitalPRO line of drivers is produced using state of the art materials. Our team of engineers design all acoustical components as well as all hard parts. A special heat dissipation system, designed by our R&D team, allows outstanding power handling capability while improving the drivers' reliability. Cones and suspensions, as well as voice coils, undergo a special treatment in order to provide reliable performance even in the most severe environmental conditions. The specifically selected adhesives and the curing phase during the production process are a guarantee for product reliability and durability. The entire line of FaitalPRO drivers has been tested and verified to withstand the most severe working environments. . With this in mind Faital has chosen to carry out life tests in accordance with the severe AES 2 - 1984 Rev.2003. norm. Every FaitalPRO driver is manufactured combining superb craftsmanship with the latest industrial technologies and rigorous tests are constantly performed during quality checks. All driver components are put through continuous visual, mechanical and electrical tests to verify their conformity to the design parameters. This procedure is in place to keep production tolerances within very tight limits ensuring consistency in quality and reliability over time. As quality and environmental protection are of utmost importance to us, Faital has been certified for many years in accordance with the following international standards:

- IATF 16949
- ISO 9001
- ISO 14001
- ISO 50001



"BEHIND THE SCENES" OF A PROJECT BY FAITAL

The Design of a magnet assembly

The magnet assemblies of all products in the FaitalPRO range are carefully designed to guarantee the nominal performance of each loudspeaker during its lifetime.

Detailed simulations using FEA techniques have allowed evaluations to be made on both flux density as well as thermal equilibrium. The presence of high temperature in the magnet assembly is a result of the voice coil overheating. This, in turn, is linked to the Joule effect produced by the current that circulates in the coil windings on the basis of the power supplied from the source and the electro-acoustical yield of the loudspeakers itself. For this reason a great deal of attention has gone into designing products capable of efficiency (η_{a0}) in the area of 2.70% - 3.00%. Furthermore the magnet assemblies have been conceived to have a double function: guaranteeing performance and, at the same time, contributing and optimizing the coil heat dissipation. This takes place by maximizing the surface area available for heat exchange of the voice coil in the air gap, easing the thermal radiation, and quickly transporting the absorbed energy to the aluminum basket.

Great care has been taken in the design phase to allow for the correct distribution of the magnetic flux within the air gap and avoiding areas of saturation in the iron parts of the magnet assembly itself.

Thermal behaviour of the voice coil

The voice coils have been designed to withstand high temperatures (up to 240° C on the windings) as well as the mechanical stress of the support during normal use. For this reason the material chosen for the former is glass fiber. A special joint has also been designed to ensure that the correct cylindrical shape is maintained. The coil windings are positioned to form two layers, one on the outer surface and the other on the inner surface of the former. This doubles the surface area available for heat exchange from the coil to the magnet assembly.

This way heat dissipation by convection is also made easier. The airways inside the magnet assembly have been studied to make the outward movement of dissipated energy as efficient as possible. This is helped by the geometry of the magnet assembly and the specific structure of the base of the speaker basket itself. The movement of the mobile parts of the speaker allows the hot air to be forced out, especially in the frequency range under 400Hz.

The thermal energy generated by the coil in free air is approximately 2.5 x 108 W/m³. Exceeding this limit during the design phase will certainly result in the destruction of the coil in a real application. This parameter therefore constitutes a fundamental aspect in regards to reliability and has been taken into consideration in the design phase of the magnet assembly and the definition of the maximum power associated with each model of speaker in the range.

The application of energy dissipation techniques is another measure that guarantees the reliability and performance during the products' life.

Electro-acoustical behaviour

FEA analyses allow the dynamic behaviour of a magnet assembly to be studied. In this way it is possible to study the Eddy currents calculating the loss and the impedance. In parallel an analysis is carried out on the compliance and the non-linearity of the spider using specific instruments. Consolidating together the data obtained allows for a final analysis that simulates the behaviour of the loudspeaker at low frequencies. This is carried out using another one of Faital's simulation tools called "Data Processing Engine", allowing for the prediction of resonance frequency, excursion, distortion, and other loudspeaker parameters.

The structural analysis and frequency response, permits the acoustical verification to be completed. This also permits to define, at a design level, all necessary parameters for acoustical optimization.

Experimental tests and reliability

The parameters previously simulated are used as the starting point for a performance verification of all the components that make up a FaitalPRO transducer. Once the speakers are made using definitive production tools Faital carries out an in-depth laboratory activity of each component's performance. The objective is to verify that every product in the FaitalPRO range corresponds to the design parameters.

Particular attention is paid to the verification of:

- Magnetic properties
- Electro-acoustical characteristics
- Mechanical performance
- Climatic and environmental performance
- Reliability and product life

Faital's 50 years of activity has allowed the company to consolidate its experience. Working in markets where defects are calculated in ppm (parts per million) and every product issue causes a series of costs that are much higher than the cost of the individual loudspeaker, Faital has invested in the latest technology and instrumentation allowing this kind of verification to be carried out. Faital's Research & Development Department has at its disposal three anechoic chambers with integrated and computerized instruments capable of satisfying any requirement from the market. When it comes to reliability and products' capabilities to maintain and guarantee the performance for which they were originally designed, Faital's position is to go beyond the standard criteria used and to test all its products with a far greater level of severity. With this in mind Faital has chosen to carry out life tests in accordance with the severe norm AES 2-1984 Rev. 2003, that requires the driver to function in free air for 2 hours at nominal power, powering the unit with DIN filtered Pink Noise. This test is by far more severe than that normally used by our leading competitors who usually test their speakers for a much lower number of hours as well as fitting the speaker in a vented acoustic box. The tests carried out allow Faital to face the Professional Audio market with the guarantee of offering its clients a complete family of transducers that are in line with the highest market standards and that are produced using the most advanced technologies. All the products are designed at Faital's headquarters and main R&D laboratory in S. Donato Milanese, near Milan in Italy. The woofer's production takes place at Faital's Manufacturing plant in Chieve, about 40 Km from the company's headquarters. The compression drivers are produced in Spain near Barcelona in the Vacarisses plant. All of Faital's plants are certified ISO TS16949:2009, ISO 14001:2004, ISO 9001:2008.

FaitalPRO Range

The range comprises a complete series of woofers, compression drivers and horns in every category the market needs be it equipped with Ferrite or Neodymium magnets. These products are only a starting point, in fact Faital's intention is to expand and improve the entire FaitalPRO line of products with the goal of continuing to satisfy even the most demanding clients. In order to achieve this goal Faital will continue to invest in its research R&D and will maintain the production sites updated by continuously applying the latest technologies.



ECO-CONSCIOUS

by Faital

SOLAR ENERGY

THE NEXT STEP FORWARD FOR FAITALPRO!

Pressing on with our environmental efforts, we at Faital added to our already highly technological profile an ecologically conscious approach by harnessing solar power.

The Chieve plant, in the Cremona province, is the location chosen by Faital to install the manufacturing operations for the entire range dedicated to the professional audio world, in other words, the FaitalPRO division. This modern manufacturing facility has constantly sustained technological innovation over time and is now equipped with a powerful photovoltaic system of extremely modern conception which is, above all, **dedicated to energy savings and reducing Faital's Carbon footprint.**

Initially opened in 1978, the Chieve production plant has continuously been updated following and at times even anticipating the most advanced technological trends, including the installation of highly automated production lines, that guarantee the accurate reproduction and consistently high quality of the entire pro-audio range. The Chieve plant roof presented the ideal layout and orientation for the solar panels planned for this project. This new power generation system was designed and built to achieve outstanding production efficiency - thus significant savings – as well as to continue on Faital's pursuit for always more "ecologically conscious" operations and guaranteeing FaitalPRO's ever "greener" signature. In fact, Faital states that on a power level, this new installation is aligned with the global policy for energy savings in terms of consumption and it is not by chance that this photovoltaic system was **designed to cover 40% of the internal energy requirements.** On the other hand, from the increasingly important ecological point of view, the new system will also prevent dumping several tons of harmful CO2 into the atmosphere every year.



The system's installed capacity is 199 KWp with an annual estimated contribution of **210,000 kWh**, equivalent to about 40% of the Chieve plant's current annual consumption. The official data indicate a significant savings of carbon dioxide released into the atmosphere, almost 111,000 kg per year, which means **sparing more than 2,000 metric tons of CO2 emissions** over the next 20 year.

The system was officially activated the last week of June 2012 and the entire installation was completed in a record two months time. In all the setup includes 848 polycrystalline panels (Sovello Pure Power L with 235 Wp each and a guaranteed output for at least 25 years) and eight Delta Solivia 20TL inverters, all Made in Germany.

With a useful life of over 25 years, this system is the latest step forward in **Faital's long term and long established consideration for the safety of the environment.**

ENVIRONMENTAL COMPLIANCE

Over the years Faital has always stayed ahead of the European Union's environmental requirements. Continuous studies and implementation of changes and controls are aimed at guaranteeing a lower impact on the environment of all Faital processes. This led to the attainment of the important and certainly not widely awarded ISO 14001, a certification that is exclusively bestowed on companies that respect very stringent, specifically defined "environmental management requisites" and that is not a requirement but a voluntary act of those who seek coherent, efficient and sustainable improvement in environmental protection matters: a certification with the goal of - "establishing/implementing/actively maintaining/improving a system of sustainable environmental management".

Faital S.p.A. is committed to complying with all applicable laws and regulations, including the European Union's Waste Electrical and Electronic Equipment (WEEE) and Restriction of Hazardous Substances (RoHS3) directives.

WEEE Directive (2012/19/EU)



The WEEE Directive (2012/19/EU) The Waste Electrical and Electronic Equipment Directive (WEEE) of the European Parliament and of the Council of July 4th, 2012 applies to companies that manufacture, sell, distribute, recycle or treat electrical and electronic equipment to consumers in the European Union (EU). It covers all large and small household appliances, IT equipment, radio and audio equipment, electrical tools and telecommunications equipment. The Directive aims to reduce the waste arising from electrical and electronic equipment and to improve the environmental performance of all those involved in the life cycle of these products.

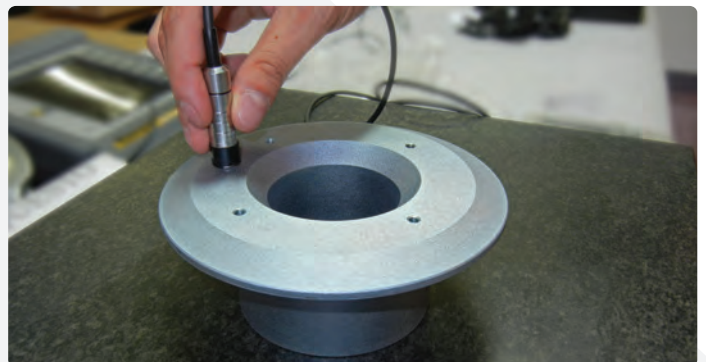
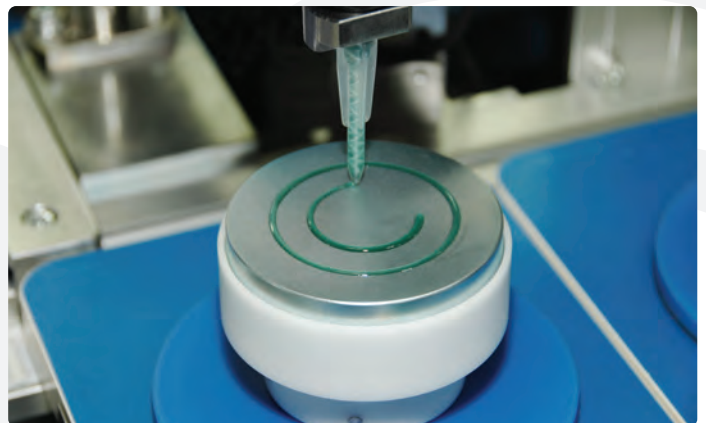
RoHS3 Directive (2015/863/EU)

Commission Delegated Directive (EU) 2015/863 of 31 (March 2015) amending Annex II to Directive 2011/65/EU of the European Parliament and of the Council as regards the list of restricted substances. It affects manufacturers, sellers, distributors and recyclers of electrical and electronic equipment containing: Cadmium (Cd), Lead (Pb), Mercury (Hg), Hexavalent Chromium (Cr VI), Polybrominated Biphenyls (PBB), Polybrominated Diphenyl Ethers (PBDE), Bis(2-Ethylhexyl) phthalate (DEHP), Benzyl butyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP).

FaitalPRO has established a number of Project Teams to assess implementation alternatives and to understand the supply chain issues associated with conformance to these Directives.

These teams are working with our suppliers to ensure that RoHS3 compliant materials are provided and do not adversely impact the quality and reliability of our products. In addition, these teams oversee several complex engineering projects to ensure that our manufacturing processes continue to meet our high quality standards after the transition has been made. Material composition data and certification is continuously being collected/updated for all components and parts and are available upon request.

FaitalPRO processes and products fully comply with both the WEEE and the RoHS3 directives.



If you have any specific questions with reference to WEEE or RoHS3 status for any FaitalPRO product or Faital's efforts with respect to complying with WEEE and RoHS3 compliance, please contact your local representative. A full list is available on the FaitalPRO website **www.faitalpro.com**.



LF

LOUDSPEAKERS

SOUNDS GOOD... ALWAYS WILL

Rigorous tests in our anechoic chambers are constantly performed during design and quality checks. All driver components are put through continuous visual, mechanical and electrical tests to verify their conformity to the design parameters. This procedure is in place to keep production tolerances within very tight limits, thus ensuring consistency in our driver's quality and reliability over time.

18XL2000

18" - 2000 W - 97 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	460 mm (18 in)
Overall Diameter	460 mm (18.11 in)
Bolt Circle Diameter	440 mm (17.32 in)
Baffle Cutout Diameter	422 mm (16.61 in)
Depth	227 mm (8.94 in)
Flange and gasket Thickness	14 mm (0.55 in)
Net Weight	11.3 kg (24.9 lb)
Shipping Box	490 x 485 x 275 mm
(Single Carton Box)	(19.3 x 19.1 x 10.8 in)
Shipping Weight	12.8 kg (28.2 lb)

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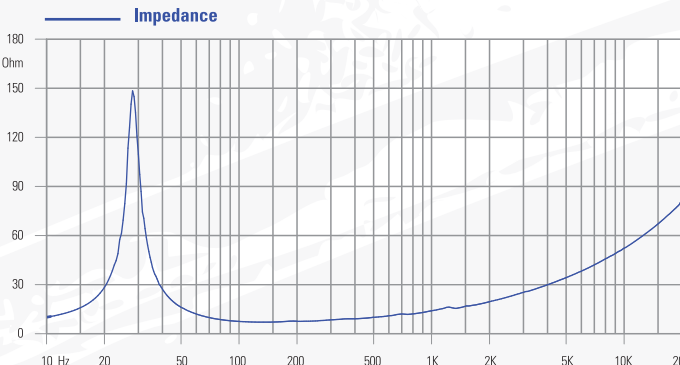
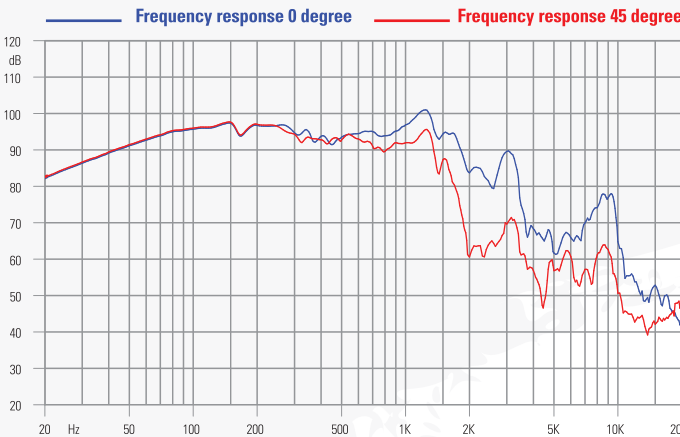
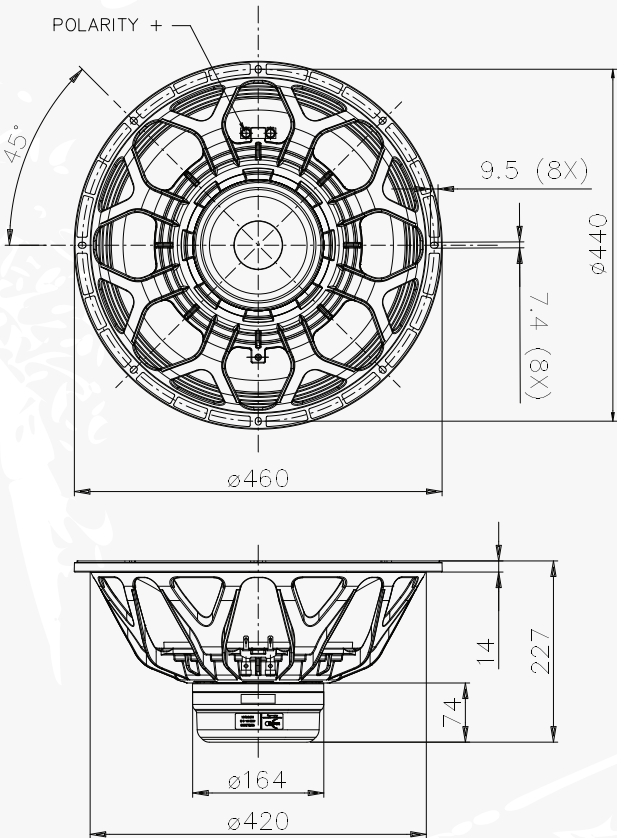
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
- (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth) / 2] + (magnetic\ gap\ depth / 3)$
- (3) Maximum excursion before permanent damage
- (4) Maximum power is defined as 3dB greater than nominal power
- (5) Treated Polycotton

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	7 Ω
AES Power Handling (1)	2000 W
Maximum Power Handling (4)	4000 W
Sensitivity (1W/1m)	97 dB
Frequency Range	30÷1600 Hz
Voice Coil Diameter	118 mm (4.65 in)
Winding Material	Cu
Former Material	Glass Fiber
Winding Depth	37.3 mm (1.47 in)
Magnetic Gap Depth	14 mm (0.55 in)
Flux Density	1.2 T
Magnet	Neodymium Ring
Basket Material	Aluminum
Demodulation	Double Al Dem. Ring
Cone Surround (5)	Triple Roll
NET Air Volume filled by Loudspeaker	7.3 dm³ (0.258 ft³)
Spider Profile	2x non-adjacent symmetrical constant height waves

THIELE & SMALL PARAMETERS

Fs	28 Hz
Re	5.3 Ω
Qes	0.28
Qms	10.1
Qts	0.27
Vas	232.1 dm³ (8.20 ft³)
Sd	1213 cm² (188.02 in²)
Xmax (2)	16.32 mm
Xdamage (3)	33 mm
Mms	286.0 g
Bl	30.8 N/A
Le	1.45 mH
Mmd	238.3 g
Cms	0.11 mm/N
Rms	5.0 kg/s
η _o (Eta Zero)	1.8 %
EBP	100 Hz



18XL1800

18" - 1600 W - 95 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	460 mm (18 in)
Overall Diameter	460 mm (18.11 in)
Bolt Circle Diameter	440 mm (17.32 in)
Baffle Cutout Diameter	422 mm (16.61 in)
Depth	233 mm (9.17 in)
Flange and gasket Thickness	14 mm (0.55 in)
Net Weight	10.2 kg (22.5 lb)
Shipping Box	490 x 485 x 275 mm
(Single Carton Box)	(19.3 x 19.1 x 10.8 in)
Shipping Weight	11.7 kg (25.8 lb)

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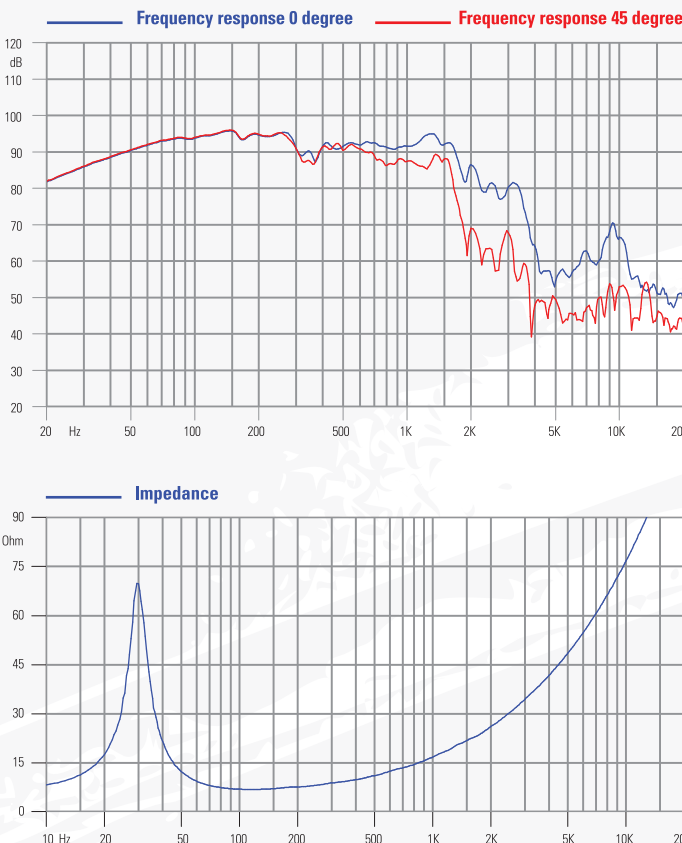
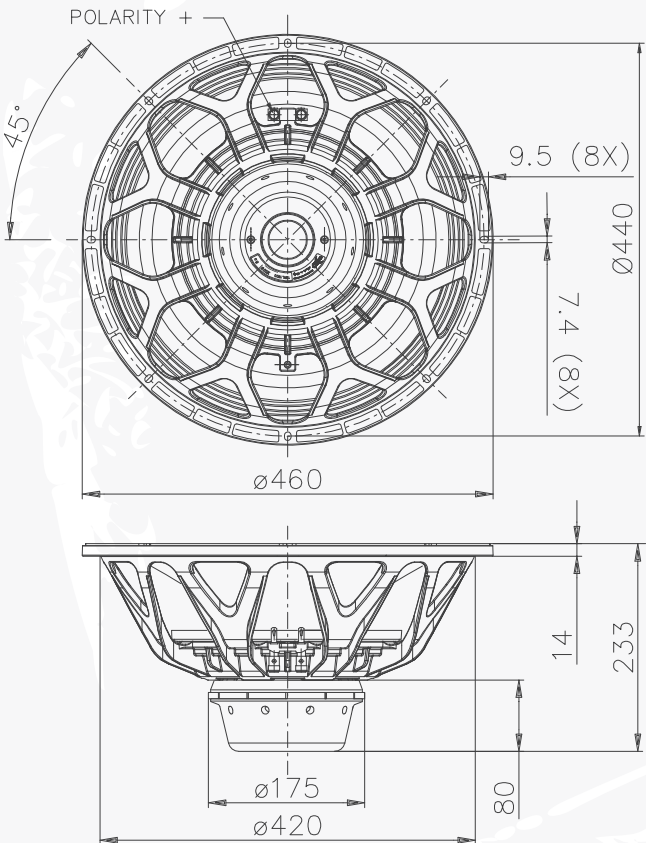
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
- (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
- (3) Maximum excursion before permanent damage
- (4) Maximum power is defined as 3dB greater than nominal power
- (5) Treated Polycotton

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	6.7 Ω
AES Power Handling (1)	1600 W
Maximum Power Handling (4)	3200 W
Sensitivity (1W/1m)	95 dB
Frequency Range	30÷1600 Hz
Voice Coil Diameter	100 mm (4 in)
Winding Material	Cu
Former Material	Glass Fiber
Winding Depth	45 mm (1.77 in)
Magnetic Gap Depth	14 mm (0.55 in)
Flux Density	1.15 T
Magnet	Neodymium Sectors
Basket Material	Aluminum
Demodulation	Aluminum Ring
Cone Surround (5)	Triple Roll
NET Air Volume filled by Loudspeaker	7.3 dm³ (0.258 ft³)
Spider Profile	2x non-adjacent symmetrical constant height waves

THIELE & SMALL PARAMETERS

Fs	29 Hz
Re	5.35 Ω
Qes	0.42
Qms	9.9
Qts	0.4
Vas	215.5 dm³ (7.61 ft³)
Sd	1187 cm² (183.99 in²)
Xmax (2)	20.17 mm
Xdamage (3)	36 mm
Mms	275.0 g
Bl	25.4 N/A
Le	2.04 mH
Mmd	228.8 g
Cms	0.11 mm/N
Rms	5.1 kg/s
η _o (Eta Zero)	1.24 %
EBP	69 Hz



18XL1600

18" - 1600 W - 98 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	460 mm (18 in)
Overall Diameter	460 mm (18.11 in)
Bolt Circle Diameter	440 mm (17.32 in)
Baffle Cutout Diameter	422 mm (16.61 in)
Depth	231 mm (9.09 in)
Flange and gasket Thickness	14 mm (0.55 in)
Net Weight	12.2 kg (26.9 lb)
Shipping Box	490 x 485 x 275 mm
(Single Carton Box)	(19.3 x 19.1 x 10.8 in)
Shipping Weight	13.7 kg (30.2 lb)

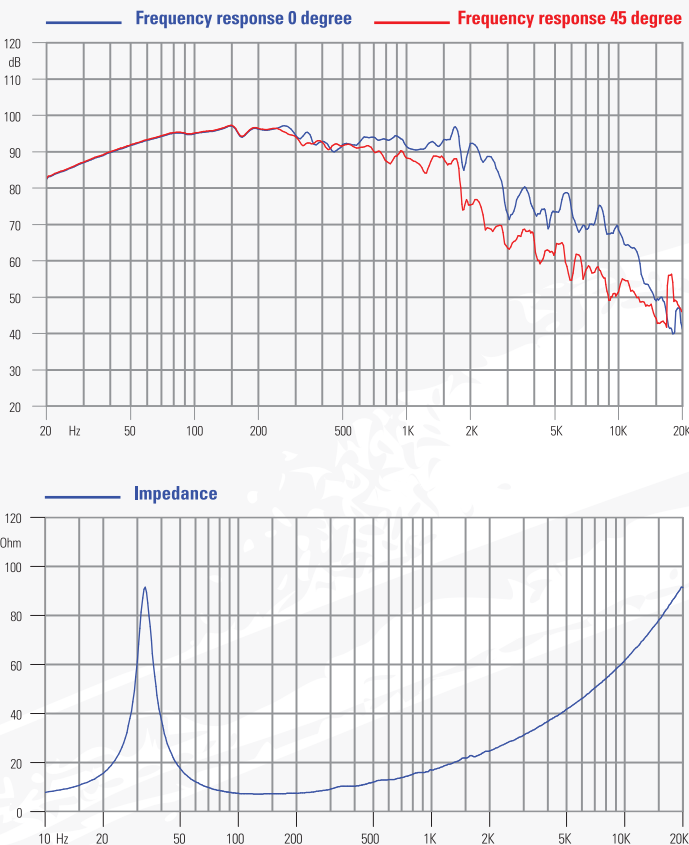
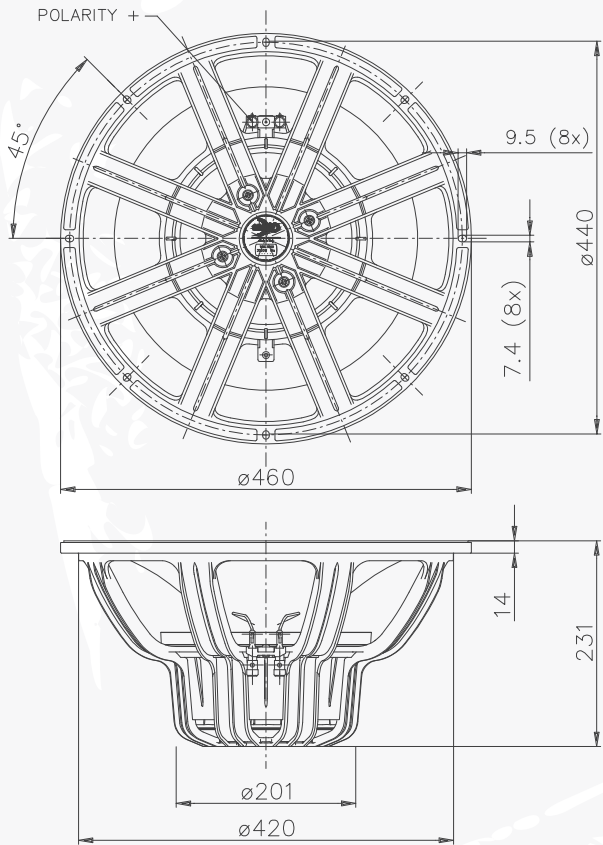
- NOTES:
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
 - (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth) / 2] + (magnetic\ gap\ depth / 3)$
 - (3) Maximum excursion before permanent damage
 - (4) Maximum power is defined as 3dB greater than nominal power
 - (5) Treated Polycotton
- PATENT PENDING

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	7.4 Ω
AES Power Handling (1)	1600 W
Maximum Power Handling (4)	3200 W
Sensitivity (1W/1m)	98 dB
Frequency Range	30÷1500 Hz
Voice Coil Diameter	100 mm (4 in)
Winding Material	Cu
Former Material	Glass Fiber
Winding Depth	31 mm (1.22 in)
Magnetic Gap Depth	15.5 mm (0.61 in)
Flux Density	1.05 T
Magnet	Neodymium Slug Crown
Basket Material	Aluminum
Demodulation	Triple Al Dem. Ring
Cone Surround (5)	Triple Roll
NET Air Volume filled by Loudspeaker	7.3 dm³ (0.258 ft³)
Spider Profile	2x non-adjacent symmetrical constant height waves

THIELE & SMALL PARAMETERS

Fs	32 Hz
Re	5.4 Ω
Qes	0.37
Qms	9.3
Qts	0.36
Vas	211.4 dm³ (7.47 ft³)
Sd	1212 cm² (187.86 in²)
Xmax (2)	12.92 mm
Xdamage (3)	28 mm
Mms	240.0 g
Bl	26.7 N/A
Le	1.45 mH
Mmd	192.3 g
Cms	0.10 mm/N
Rms	5.2 kg/s
η _e (Eta Zero)	1.84 %
EBP	86 Hz



18HW1070

18" - 1600 W - 97 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	460 mm (18 in)
Overall Diameter	460 mm (18.11 in)
Bolt Circle Diameter	440 mm (17.32 in)
Baffle Cutout Diameter	422 mm (16.61 in)
Depth	223 mm (8.78 in)
Flange and gasket Thickness	14 mm (0.55 in)
Net Weight	14.7 kg (32.4 lb)
Shipping Box	490 x 485 x 275 mm
(Single Carton Box)	(19.3 x 19.1 x 10.8 in)
Shipping Weight	16.2 kg (35.7 lb)

NOTES:

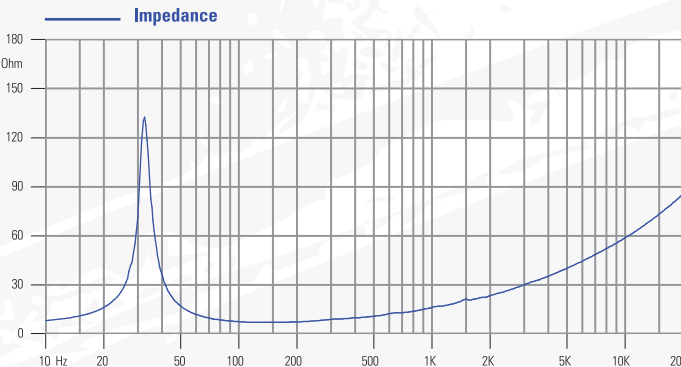
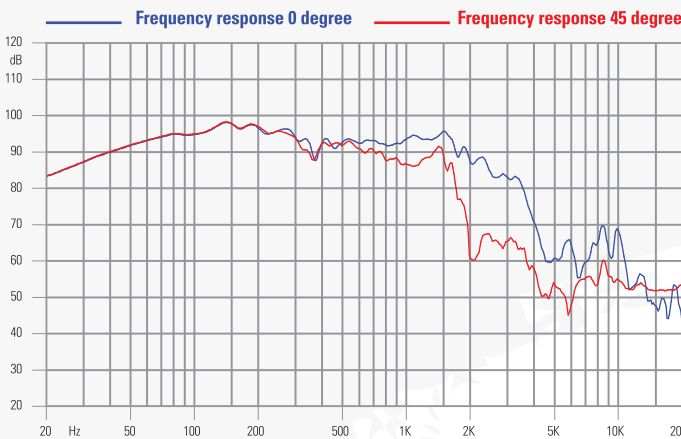
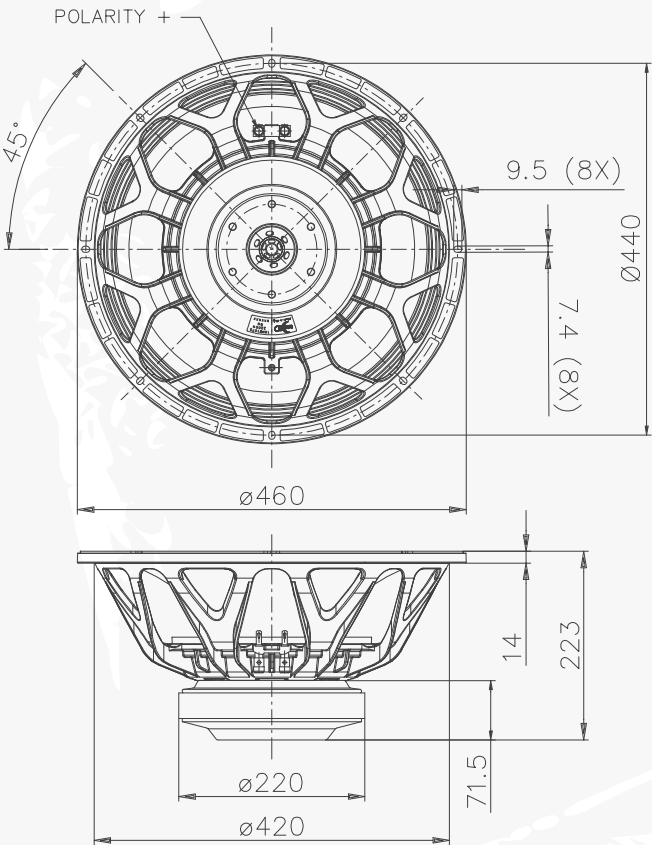
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
- (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth) / 2] + (magnetic\ gap\ depth / 3)$
- (3) Maximum excursion before permanent damage
- (4) Maximum power is defined as 3dB greater than nominal power
- (5) Treated Polycotton

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	6.5 Ω
AES Power Handling (1)	1600 W
Maximum Power Handling (4)	3200 W
Sensitivity (1W/1m)	97 dB
Frequency Range	30÷1500 Hz
Voice Coil Diameter	100 mm (4 in)
Winding Material	Cu
Former Material	Glass Fiber
Winding Depth	31 mm (1.22 in)
Magnetic Gap Depth	15 mm (0.59 in)
Flux Density	1.1 T
Magnet	Ferrite Ring
Basket Material	Aluminum
Demodulation	Triple Al Dem. Ring
Cone Surround (5)	Triple Roll
NET Air Volume filled by Loudspeaker	7.4 dm³ (0.261 ft³)
Spider Profile	2x non-adjacent symmetrical constant height waves

THIELE & SMALL PARAMETERS

Fs	32 Hz
Re	5.4 Ω
Qes	0.39
Qms	10.0
Qts	0.38
Vas	195.9 dm³ (6.92 ft³)
Sd	1212 cm² (187.86 in²)
Xmax (2)	13.00 mm
Xdamage (3)	30 mm
Mms	259.0 g
Bl	27 N/A
Le	1.68 mH
Mmd	211.3 g
Cms	0.10 mm/N
Rms	5.2 kg/s
η _o (Eta Zero)	1.61 %
EBP	82 Hz



18HP1060

18" - 1200 W - 98 dB

18HP1030

18" - 1200 W - 98 dB



NOMINAL SPECIFICATIONS

	18HP1060	18HP1030
Nominal Diameter	460 mm (18 in)	460 mm (18 in)
Overall Diameter	460 mm (18.11 in)	460 mm (18.11 in)
Bolt Circle Diameter	440 mm (17.32 in)	440 mm (17.32 in)
Baffle Cutout Diameter	422 mm (16.61 in)	421 mm (16.57 in)
Depth	215 mm (8.46 in)	208.5 mm (8.20 in)
Flange and gasket Thickness	13.9 mm (0.55 in)	13.7 mm (0.54 in)
Net Weight	7.3 kg (16.1 lb)	12.1 kg (26.7 lb)
Shipping Box	503 x 500 x 258 mm	503 x 500 x 258 mm
(Single Carton Box)	(19.8 x 19.7 x 10.2 in)	(19.8 x 19.7 x 10.2 in)
Shipping Weight	8.7 kg (19.2 lb)	13.5 kg (29.8 lb)

- NOTES:
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
 - (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
 - (3) Maximum excursion before permanent damage
 - (4) Maximum power is defined as 3dB greater than nominal power
 - (5) Treated Polycotton

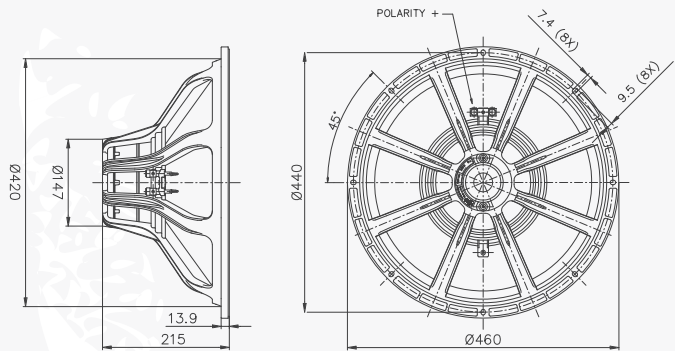
TECHNICAL PARAMETERS

	18HP1060	18HP1030
Nominal Impedance	8 Ω	8 Ω
Minimum Impedance	6.3 Ω	6.5 Ω
AES Power Handling (1)	1200 W	1200 W
Maximum Power Handling (4)	2400 W	2400 W
Sensitivity (1W/1m)	98 dB	98 dB
Frequency Range	35÷1600 Hz	35÷1600 Hz
Voice Coil Diameter	100 mm (4 in)	100 mm (4 in)
Winding Material	Cu	Cu
Former Material	Glass Fiber	Glass Fiber
Winding Depth	28.9 mm (1.14 in)	28.9 mm (1.14 in)
Magnetic Gap Depth	12 mm (0.47 in)	12 mm (0.47 in)
Flux Density	1.22 T	1.1 T
Magnet	Neodymium Ring	Ferrite Ring
Basket Material	Aluminum	Aluminum
Demodulation	Aluminum Ring	Aluminum Ring
Cone Surround (5)	Triple Roll	Triple Roll
NET Air Volume filled by Loudspeaker	5.3 dm³ (0.187 ft³)	6.5 dm³ (0.230 ft³)
Spider Profile	2x non-adjacent symmetrical variable height waves	2x non-adjacent symmetrical constant height waves

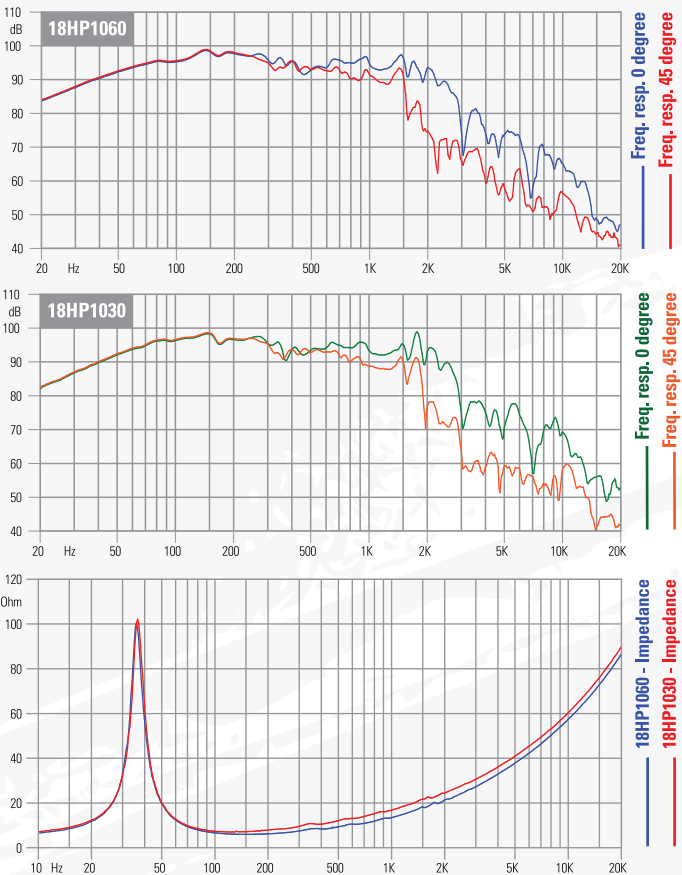
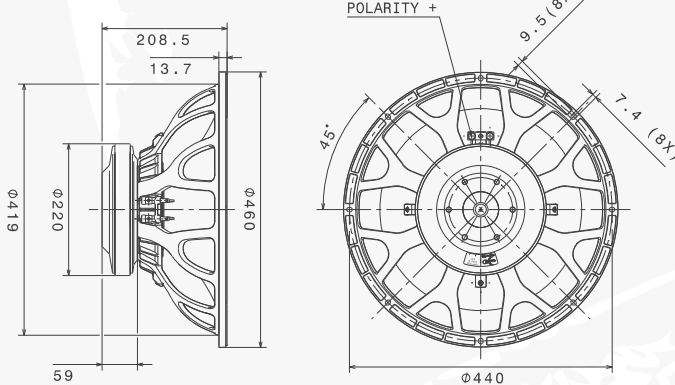
THIELE & SMALL PARAMETERS

	18HP1060	18HP1030
Fs	35 Hz	35 Hz
Re	5 Ω	5 Ω
Qes	0.38	0.43
Qms	11.1	11.6
Qts	0.37	0.41
Vas	200.3 dm³ (7.07 ft³)	185.5 dm³ (6.55 ft³)
Sd	1212 cm² (187.86 in²)	1212 cm² (187.86 in²)
Xmax (2)	12.45 mm	12.45 mm
Xdamage (3)	21 mm	23.1 mm
Mms	211.8 g	228.6 g
Bl	24.8 N/A	24.3 N/A
Le	1.26 mH	1.48 mH
Mmd	164.1 g	180.9 g
Cms	0.10 mm/N	0.09 mm/N
Rms	4.2 kg/s	4.3 kg/s
η _o (Eta Zero)	2.20 %	1.81 %
EBP	92 Hz	81 Hz

18HP1060



18HP1030



18HP1022

18" - 1000 W - 98 dB

18HP1042

18" - 1000 W - 98 dB



NOMINAL SPECIFICATIONS

	18HP1022	18HP1042
Nominal Diameter	460 mm (18 in)	460 mm (18 in)
Overall Diameter	460 mm (18.11 in)	460 mm (18.11 in)
Bolt Circle Diameter	440 mm (17.32 in)	440 mm (17.32 in)
Baffle Cutout Diameter	422 mm (16.61 in)	422 mm (16.61 in)
Depth	202 mm (7.95 in)	202 mm (7.95 in)
Flange and gasket Thickness	14 mm (0.55 in)	14 mm (0.55 in)
Net Weight	6.6 kg (14.6 lb)	6.7 kg (14.8 lb)
Shipping Box	503 x 500 x 258 mm	503 x 500 x 258 mm
(Single Carton Box)	(19.8 x 19.7 x 10.2 in)	(19.8 x 19.7 x 10.2 in)
Shipping Weight	7.8 kg (17.2 lb)	7.8 kg (17.2 lb)

- NOTES:
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
- (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth) / 2] + (magnetic\ gap\ depth / 3)$
- (3) Maximum excursion before permanent damage
- (4) Maximum power is defined as 3dB greater than nominal power
- (5) Treated Polycotton

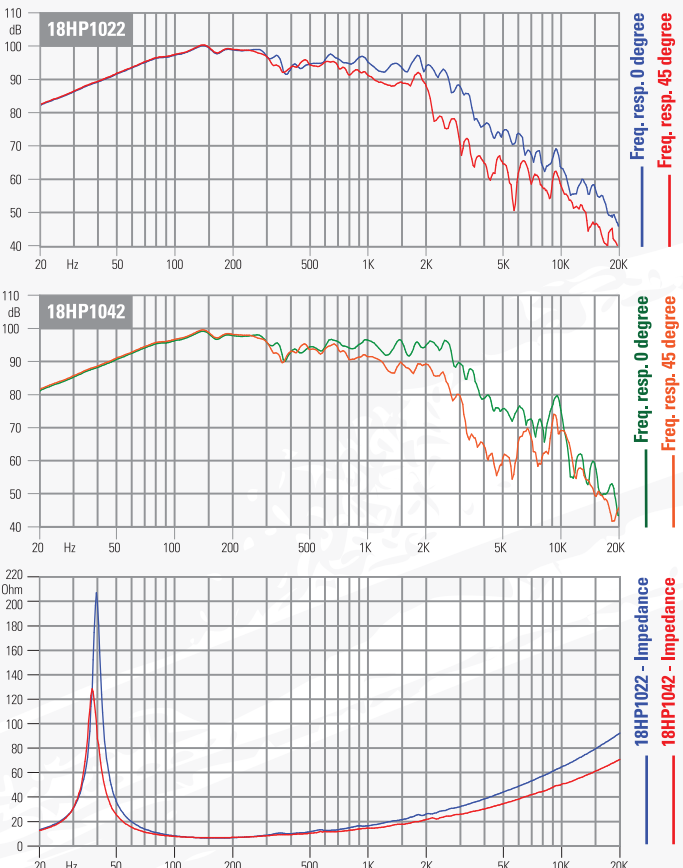
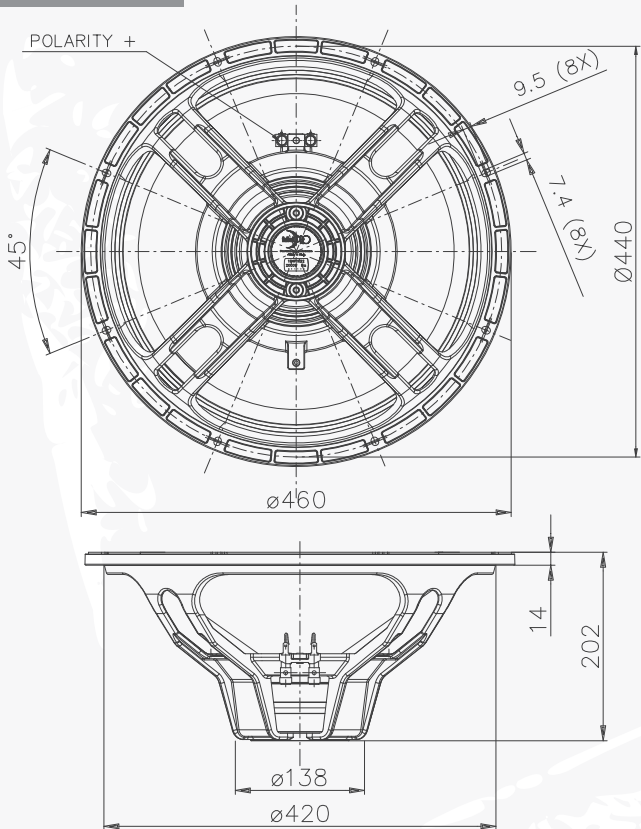
TECHNICAL PARAMETERS

	18HP1022	18HP1042
Nominal Impedance	8 Ω	8 Ω
Minimum Impedance	6.5 Ω	6.6 Ω
AES Power Handling (1)	1000 W	1000 W
Maximum Power Handling (4)	2000 W	2000 W
Sensitivity (1W/1m)	98 dB	98 dB
Frequency Range	35÷1600 Hz	38÷2500 Hz
Voice Coil Diameter	100 mm (4 in)	100 mm (4 in)
Winding Material	Cu	Al
Former Material	Glass Fiber	Glass Fiber
Winding Depth	23 mm (0.91 in)	22 mm (0.87 in)
Magnetic Gap Depth	12 mm (0.47 in)	12 mm (0.47 in)
Flux Density	1.3 T	1.3 T
Magnet	Neodymium Slug	Neodymium Slug
Basket Material	Aluminum	Aluminum
Demodulation	No	No
Cone Surround (5)	Triple Roll	Triple Roll
NET Air Volume filled by Loudspeaker	5.8 dm³ (0.205 ft³)	5.8 dm³ (0.205 ft³)
Spider Profile	2x non-adjacent symmetrical constant height waves	

THIELE & SMALL PARAMETERS

	18HP1022	18HP1042
Fs	35 Hz	38 Hz
Re	5.4 Ω	5.5 Ω
Qes	0.31	0.43
Qms	14.4	10.3
Qts	0.3	0.41
Vas	204.9 dm³ (7.24 ft³)	191.9 dm³ (7.78 ft³)
Sd	1212 cm² (187.86 in²)	1212 cm² (187.86 in²)
Xmax (2)	9.50 mm	9.00 mm
Xdamage (3)	17.5 mm	17.5 mm
Mms	207.0 g	187.5 g
Bl	28 N/A	24.5 N/A
Le	1.75 mH	1.26 mH
Mmd	159.3 g	139.8 g
Cms	0.10 mm/N	0.08 mm/N
Rms	3.67 kg/s	4.58 kg/s
η _o (Eta Zero)	2.72 %	2.49 %
EBP	113 Hz	88 Hz

18HP1022 / 18HP1042



18HP1010

18" - 1000 W - 98 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	460 mm (18 in)
Overall Diameter	460 mm (18.11 in)
Bolt Circle Diameter	440 mm (17.32 in)
Baffle Cutout Diameter	421 mm (16.57 in)
Depth	203.5 mm (8.01 in)
Flange and gasket Thickness	13.7 mm (0.54 in)
Net Weight	10.1 kg (22.3 lb)
Shipping Box	503 x 500 x 258 mm
(Single Carton Box)	(19.8 x 19.7 x 10.2 in)
Shipping Weight	11.5 kg (25.4 lb)

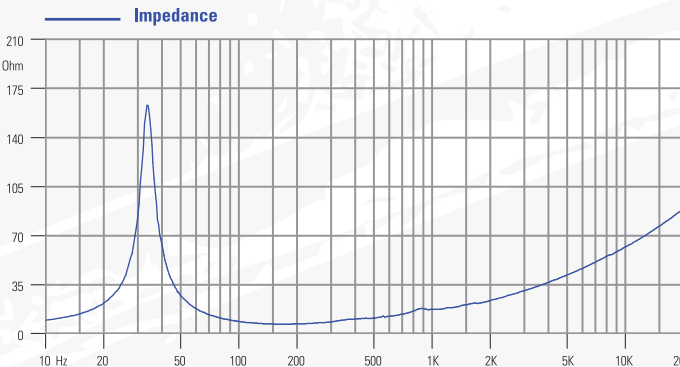
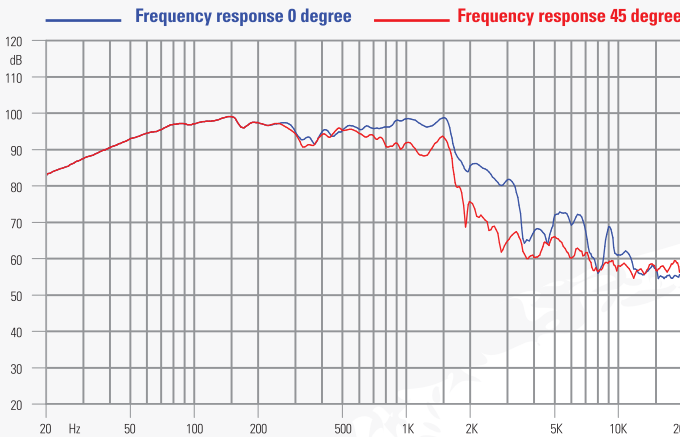
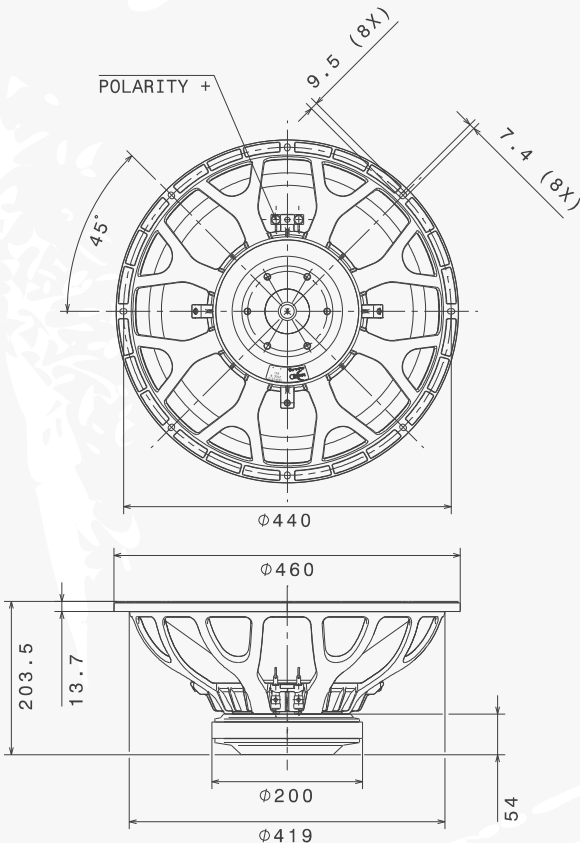
- NOTES:
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
 - (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth) / 2] + (magnetic\ gap\ depth / 3)$
 - (3) Maximum excursion before permanent damage
 - (4) Maximum power is defined as 3dB greater than nominal power
 - (5) Treated Polycotton

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	6.9 Ω
AES Power Handling (1)	1000 W
Maximum Power Handling (4)	2000 W
Sensitivity (1W/1m)	98 dB
Frequency Range	35÷2000 Hz
Voice Coil Diameter	100 mm (4 in)
Winding Material	Cu
Former Material	Glass Fiber
Winding Depth	23 mm (0.91 in)
Magnetic Gap Depth	10.5 mm (0.41 in)
Flux Density	1.05 T
Magnet	Ferrite Ring
Basket Material	Aluminum
Demodulation	No
Cone Surround (5)	Triple Roll
NET Air Volume filled by Loudspeaker	7.1 dm³ (0.251 ft³)
Spider Profile	2x non-adjacent symmetrical constant height waves

THIELE & SMALL PARAMETERS

Fs	35 Hz
Re	5.3 Ω
Qes	0.42
Qms	7.8
Qts	0.40
Vas	240.1 dm³ (8.48 ft³)
Sd	1207 cm² (187.09 in²)
Xmax (2)	9.75 mm
Xdamage (3)	21.9 mm
Mms	175.2 g
Bl	22 N/A
Le	1.8 mH
Mmd	127.8 g
Cms	0.12 mm/N
Rms	4.94 kg/s
η _o (Eta Zero)	2.37 %
EBP	83 Hz



18FX600

18" - 700 W - 99 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	460 mm (18 in)
Overall Diameter	460 mm (18.11 in)
Bolt Circle Diameter	440 mm (17.32 in)
Baffle Cutout Diameter	422 mm (16.61 in)
Depth	215 mm (8.46 in)
Flange and gasket Thickness	13.9 mm (0.55 in)
Net Weight	6.1 kg (13.4 lb)
Shipping Box	503 x 500 x 258 mm
(Single Carton Box)	(19.8 x 19.7 x 10.2 in)
Shipping Weight	7.5 kg (16.5 lb)

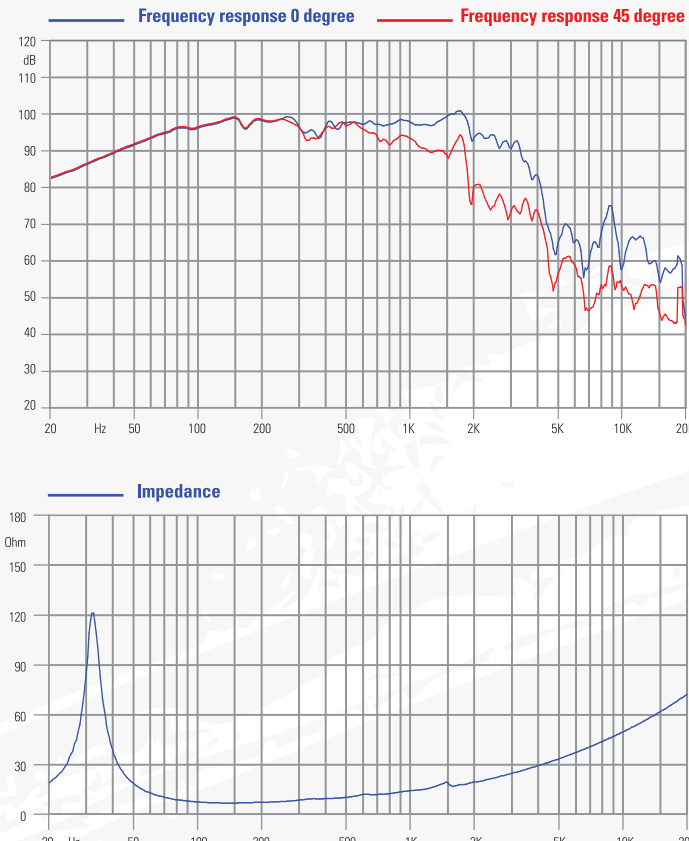
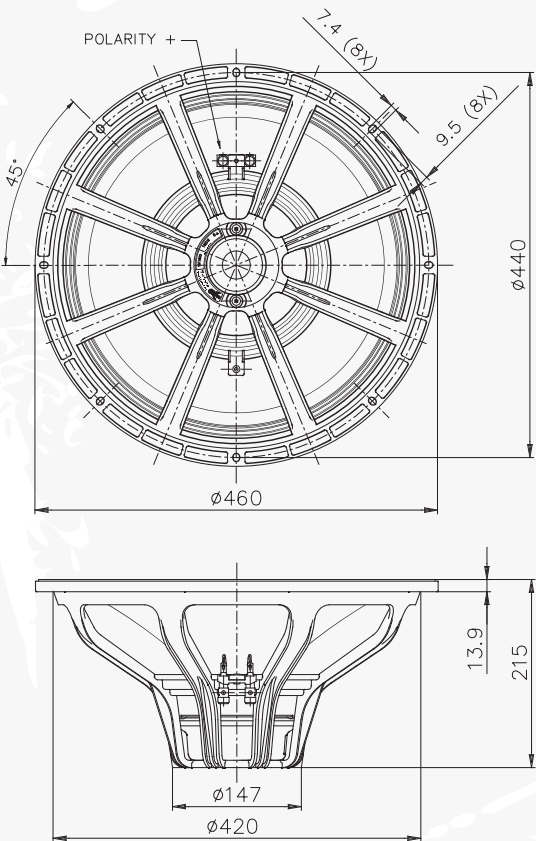
- NOTES:
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
 - (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth) / 2] + (magnetic\ gap\ depth / 3)$
 - (3) Maximum excursion before permanent damage
 - (4) Maximum power is defined as 3dB greater than nominal power
 - (5) Treated Polycotton

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	6.6 Ω
AES Power Handling (1)	700 W
Maximum Power Handling (4)	1400 W
Sensitivity (1W/1m)	99 dB
Frequency Range	35÷2500 Hz
Voice Coil Diameter	77 mm (3 in)
Winding Material	Cu
Former Material	Glass Fiber
Winding Depth	26.5 mm (1.04 in)
Magnetic Gap Depth	12 mm (0.47 in)
Flux Density	1.26 T
Magnet	Neodymium Ring
Basket Material	Aluminum
Demodulation	Aluminum Ring
Cone Surround (5)	Triple Roll
NET Air Volume filled by Loudspeaker	5.3 dm³ (0.187 ft³)
Spider Profile	1x variable height waves

THIELE & SMALL PARAMETERS

Fs	32 Hz
Re	5 Ω
Qes	0.31
Qms	9.8
Qts	0.30
Vas	257.8 dm³ (9.08 ft³)
Sd	1213 cm² (188.02 in²)
Xmax (2)	11.25 mm
Xdamage (3)	22.9 mm
Mms	175 g
Bl	24.5 N/A
Le	1.35 mH
Mmd	127.3 g
Cms	0.13 mm/N
Rms	3.8 kg/s
η _o (Eta Zero)	2.92 %
EBP	110 Hz



NEODYMIUM SUBWOOFER

18FH500

18" - 600 W - 99 dB

FERRITE SUBWOOFER

18FH510

18" - 600 W - 98 dB



NOMINAL SPECIFICATIONS

	18FH500	18FH510
Nominal Diameter	460 mm (18 in)	460 mm (18 in)
Overall Diameter	460 mm (18.11 in)	460 mm (18.11 in)
Bolt Circle Diameter	440 mm (17.32 in)	440 mm (17.32 in)
Baffle Cutout Diameter	424 mm (16.69 in)	421 mm (16.57 in)
Depth	202 mm (7.95 in)	201.5 mm (7.93 in)
Flange and gasket Thickness	13.9 mm (0.55 in)	13.7 mm (0.54 in)
Net Weight	4.6 kg (10.1 lb)	8.8 kg (19.3 lb)
Shipping Box	503 x 500 x 258 mm	503 x 500 x 258 mm
(Single Carton Box)	(19.8 x 19.7 x 10.2 in)	(19.8 x 19.7 x 10.2 in)
Shipping Weight	6 kg (13.2 lb)	10.3 kg (22.7 lb)

NOTES:

- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
 - (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
 - (3) Maximum excursion before permanent damage
 - (4) Maximum power is defined as 3dB greater than nominal power
 - (5) Treated Polycotton
- PATENT IT2006/000327 (18FH500)

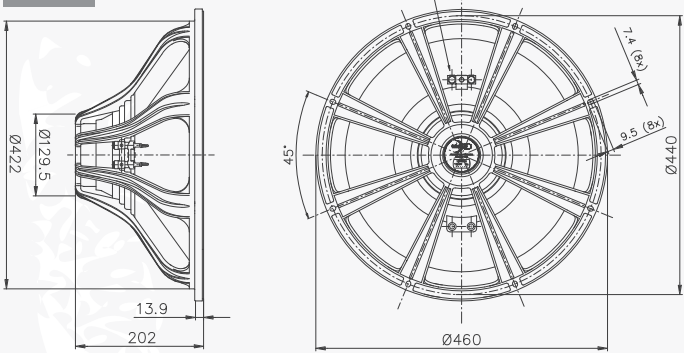
TECHNICAL PARAMETERS

	18FH500	18FH510
Nominal Impedance	8 Ω	8 Ω
Minimum Impedance	6 Ω	6.5 Ω
AES Power Handling (1)	600 W	600 W
Maximum Power Handling (4)	1200 W	1200 W
Sensitivity (1W/1m)	99 dB	98 dB
Frequency Range	30÷3150 Hz	30÷2500 Hz
Voice Coil Diameter	77 mm (3 in)	77 mm (3 in)
Winding Material	Cu	Cu
Former Material	Glass Fiber	Glass Fiber
Winding Depth	22 mm (0.87 in)	22 mm (0.87 in)
Magnetic Gap Depth	10.5 mm (0.41 in)	10.5 mm (0.41 in)
Flux Density	1.2 T	1.2 T
Magnet	Neodymium Slug	Ferrite Ring
Basket Material	Aluminum	Aluminum
Demodulation	No	No
Cone Surround (5)	Triple Roll	Triple Roll
NET Air Volume filled by Loudspeaker	5.7 dm³ (0.201 ft³)	6.1 dm³ (0.215 ft³)
Spider Profile	1x variable height waves	

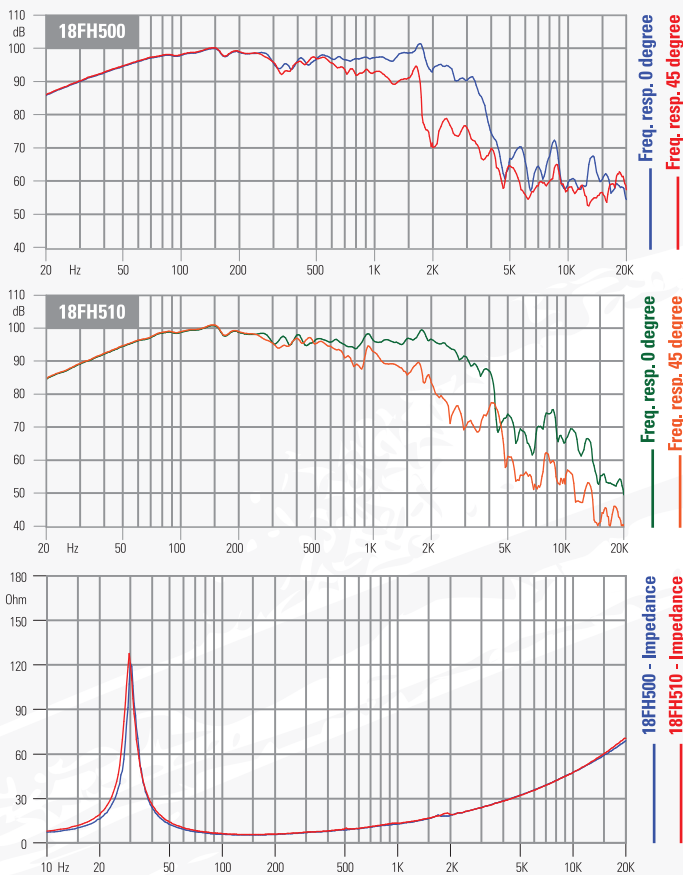
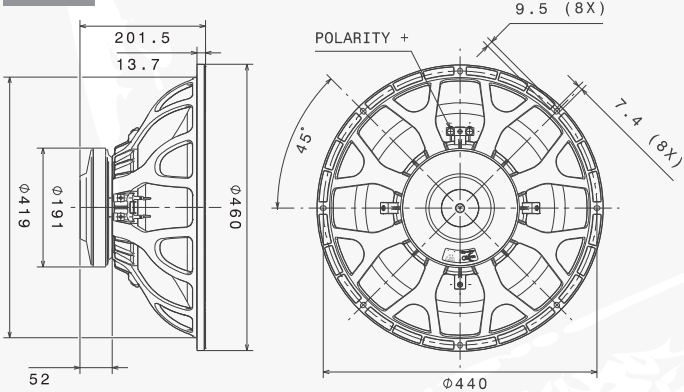
THIELE & SMALL PARAMETERS

	18FH500	18FH510
Fs	30 Hz	30 Hz
Re	5.1 Ω	5.1 Ω
Qes	0.36	0.30
Qms	12.5	13.6
Qts	0.35	0.29
Vas	417.9 dm³ (14.76 ft³)	411.9 dm³ (14.55 ft³)
Sd	1207 cm² (187.09 in²)	1207 cm² (187.09 in²)
Xmax (2)	9.25 mm	9.25 mm
Xdamage (3)	18 mm	21 mm
Mms	137.0 g	139.0 g
Bl	19 N/A	21 N/A
Le	1.35 mH	1.06 mH
Mmd	89.6 g	91.6 g
Cms	0.21 mm/N	0.20 mm/N
Rms	2.1 kg/s	1.9 kg/s
η _o (Eta Zero)	3.00 %	3.56 %
EBP	83 Hz	100 Hz

18FH500



18FH510



15XL1400

15" - 1400 W - 96 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	380 mm (15 in)
Overall Diameter	393 mm (15.47 in)
Bolt Circle Diameter	374 mm (14.72 in)
Baffle Cutout Diameter	354 mm (13.94 in)
Depth	217 mm (8.54 in)
Flange and gasket Thickness	14 mm (0.55 in)
Net Weight	11.8 kg (25.9 lb)
Shipping Box	422 x 417 x 264 mm
(Single Carton Box)	(16.6 x 16.4 x 10.4 in)
Shipping Weight	13.5 kg (29.8 lb)

NOTES:

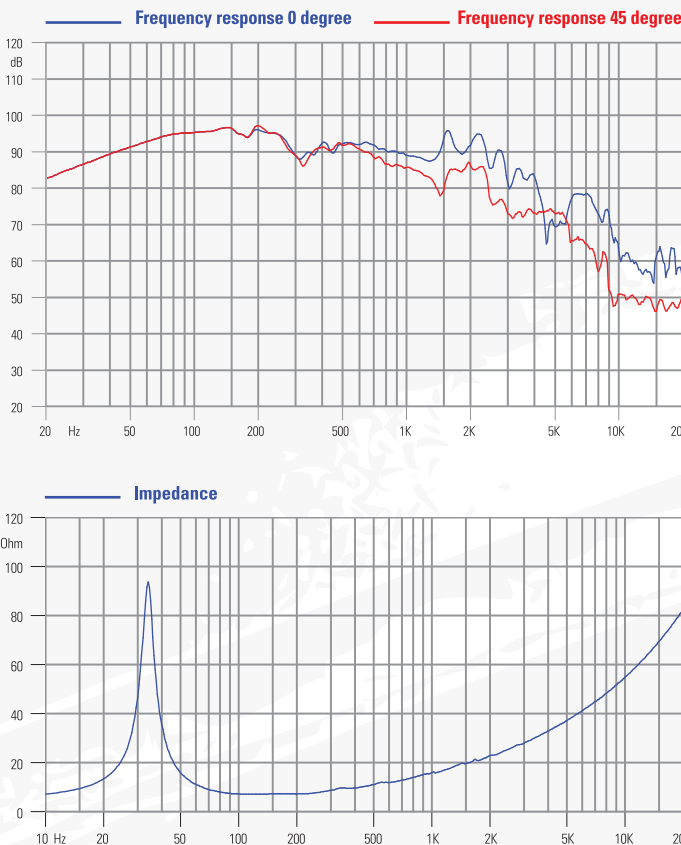
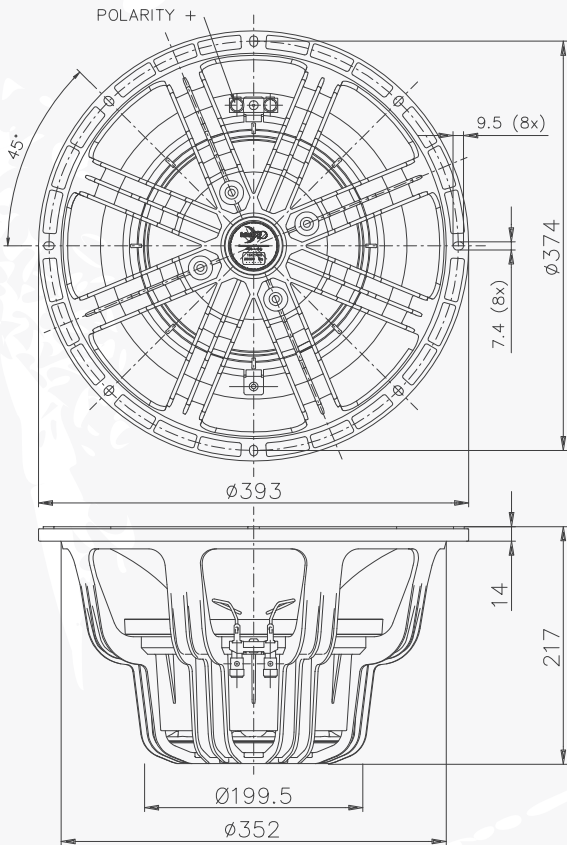
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
 - (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth) / 2] + (magnetic\ gap\ depth / 3)$
 - (3) Maximum excursion before permanent damage
 - (4) Maximum power is defined as 3dB greater than nominal power
 - (5) Treated Polycotton
- PATENT PENDING

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	7.4 Ω
AES Power Handling (1)	1400 W
Maximum Power Handling (4)	2800 W
Sensitivity (1W/1m)	96 dB
Frequency Range	40÷2500 Hz
Voice Coil Diameter	100 mm (4 in)
Winding Material	Cu
Former Material	Glass Fiber
Winding Depth	31 mm (1.22 in)
Magnetic Gap Depth	15.5 mm (0.61 in)
Flux Density	1.05 T
Magnet	Neodymium Slug Crown
Basket Material	Aluminum
Demodulation	Triple Al Dem.
Cone Surround (5)	Triple Roll
NET Air Volume filled by Loudspeaker	6 dm³ (0.212 ft³)
Spider Profile	2x non-adjacent symmetrical constant height waves

THIELE & SMALL PARAMETERS

Fs	38 Hz
Re	5.4 Ω
Qes	0.34
Qms	10.4
Qts	0.33
Vas	91.2 dm³ (3.22 ft³)
Sd	841 cm² (130.36 in²)
Xmax (2)	12.92 mm
Xdamage (3)	28 mm
Mms	190.0 g
Bl	26.7 N/A
Le	1.6 mH
Mmd	162.4 g
Cms	0.09 mm/N
Rms	4.4 kg/s
η _o (Eta Zero)	1.41 %
EBP	112 Hz



15XL1200

15" - 1400 W - 95 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	380 mm (15 in)
Overall Diameter	393 mm (15.47 in)
Bolt Circle Diameter	374 mm (14.72 in)
Baffle Cutout Diameter	354 mm (13.94 in)
Depth	194.3 mm (7.65 in)
Flange and gasket Thickness	13.7 mm (0.54 in)
Net Weight	7.3 kg (16.1 lb)
Shipping Box	430 x 427 x 236 mm
(Single Carton Box)	(16.9 x 16.8 x 9.3 in)
Shipping Weight	8.6 kg (19.0 lb)

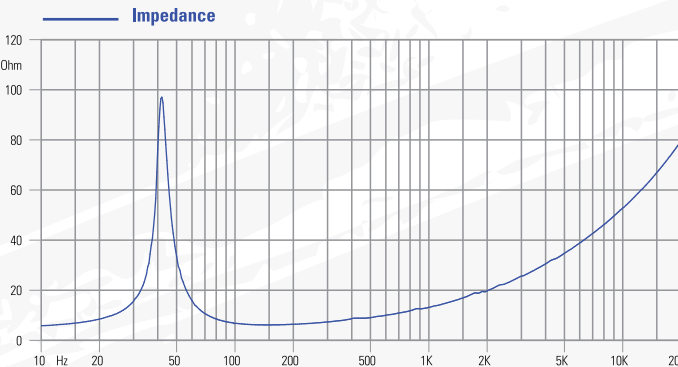
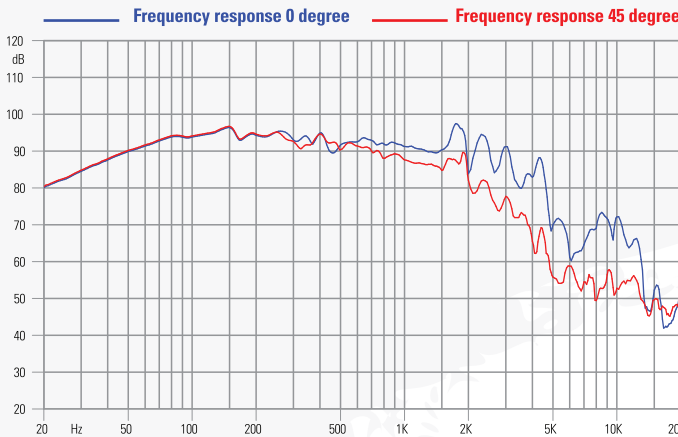
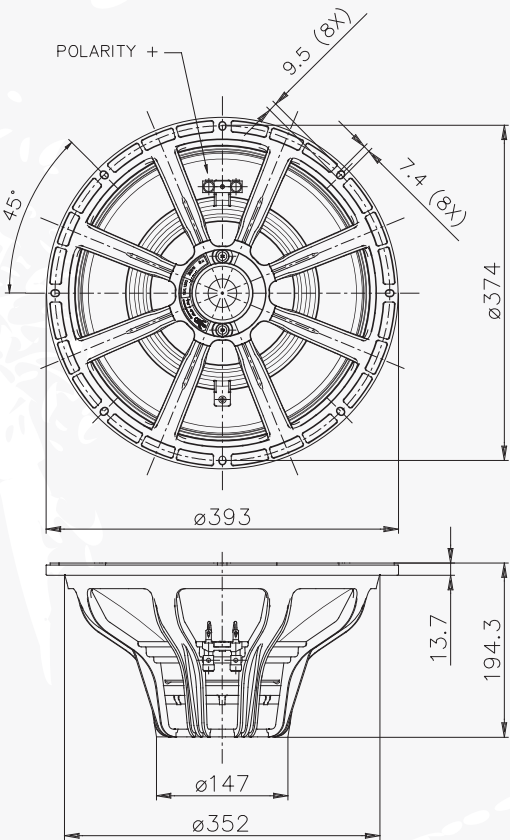
- NOTES:
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
 - (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
 - (3) Maximum excursion before permanent damage
 - (4) Maximum power is defined as 3dB greater than nominal power
 - (5) Treated Polycotton

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	6.4 Ω
AES Power Handling (1)	1400 W
Maximum Power Handling (4)	2800 W
Sensitivity (1W/1m)	95 dB
Frequency Range	40÷2000 Hz
Voice Coil Diameter	100 mm (4 in)
Winding Material	Cu
Former Material	Glass Fiber
Winding Depth	28.9 mm (1.14 in)
Magnetic Gap Depth	12 mm (0.47 in)
Flux Density	1.1 T
Magnet	Neodymium Ring
Basket Material	Aluminum
Demodulation	Aluminum Ring
Cone Surround (5)	Triple Roll
NET Air Volume filled by Loudspeaker	4.1 dm³ (0.145 ft³)
Spider Profile	2x non-adjacent symmetrical variable height waves

THIELE & SMALL PARAMETERS

Fs	40 Hz
Re	5 Ω
Qes	0.41
Qms	10.9
Qts	0.40
Vas	86.9 dm³ (3.07 ft³)
Sd	841 cm² (130.36 in²)
Xmax (2)	12.45 mm
Xdamage (3)	24 mm
Mms	180.0 g
Bl	23.6 N/A
Le	1.34 mH
Mmd	152.4 g
Cms	0.09 mm/N
Rms	4.2 kg/s
η _o (Eta Zero)	1.33 %
EBP	98 Hz



NEODYMIUM SUBWOOFER

15HP1060

15" - 1000 W - 97 dB

FERRITE SUBWOOFER

15HP1030

15" - 1000 W - 96 dB



NOMINAL SPECIFICATIONS

	15HP1060	15HP1030
Nominal Diameter	380 mm (15 in)	380 mm (15 in)
Overall Diameter	393 mm (15.47 in)	393 mm (15.47 in)
Bolt Circle Diameter	374 mm (14.72 in)	374 mm (14.72 in)
Baffle Cutout Diameter	354 mm (13.94 in)	354 mm (13.94 in)
Depth	194.3 mm (7.65 in)	188 mm (7.40 in)
Flange and gasket Thickness	13.7 mm (0.54 in)	14 mm (0.55 in)
Net Weight	7.1 kg (15.7 lb)	11.7 kg (25.8 lb)
Shipping Box	430 x 427 x 236 mm	430 x 427 x 236 mm
(Single Box)	(16.9 x 16.8 x 9.3 in)	(16.9 x 16.8 x 9.3 in)
Shipping Weight	8.4 kg (18.5 lb)	12.8 kg (28.2 lb)

NOTES:

- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
- (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
- (3) Maximum excursion before permanent damage
- (4) Maximum power is defined as 3dB greater than nominal power
- (5) Treated Polycotton

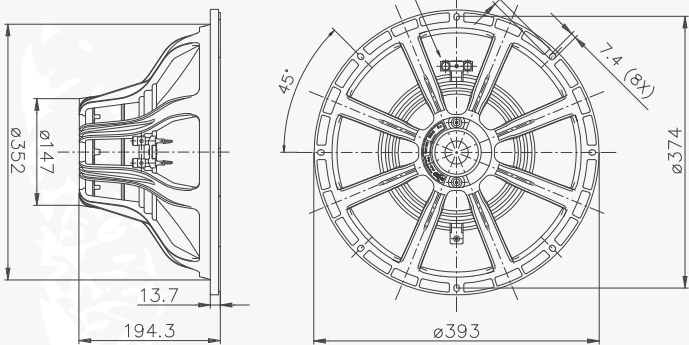
TECHNICAL PARAMETERS

	15HP1060	15HP1030
Nominal Impedance	8 Ω	8 Ω
Minimum Impedance	6.4 Ω	6.7 Ω
AES Power Handling (1)	1000 W	1000 W
Maximum Power Handling (4)	2000 W	2000 W
Sensitivity (1W/1m)	97 dB	96 dB
Frequency Range	40÷2000 Hz	40÷2000 Hz
Voice Coil Diameter	100 mm (4 in)	100 mm (4 in)
Winding Material	Cu	Cu
Former Material	Glass Fiber	Glass Fiber
Winding Depth	28.9 mm (1.14 in)	28.9 mm (1.14 in)
Magnetic Gap Depth	12 mm (0.47 in)	12 mm (0.47 in)
Flux Density	1.22 T	1.1 T
Magnet	Neodymium Ring	Ferrite Ring
Basket Material	Aluminum	Aluminum
Demodulation	Aluminum Ring	Aluminum Ring
Cone Surround (5)	Triple Roll	Triple Roll
NET Air Volume filled by Loudspeaker	4.1 dm³ (0.145 ft³)	5.1 dm³ (0.180 ft³)
Spider Profile	2x non-adjacent symmetrical variable height waves	

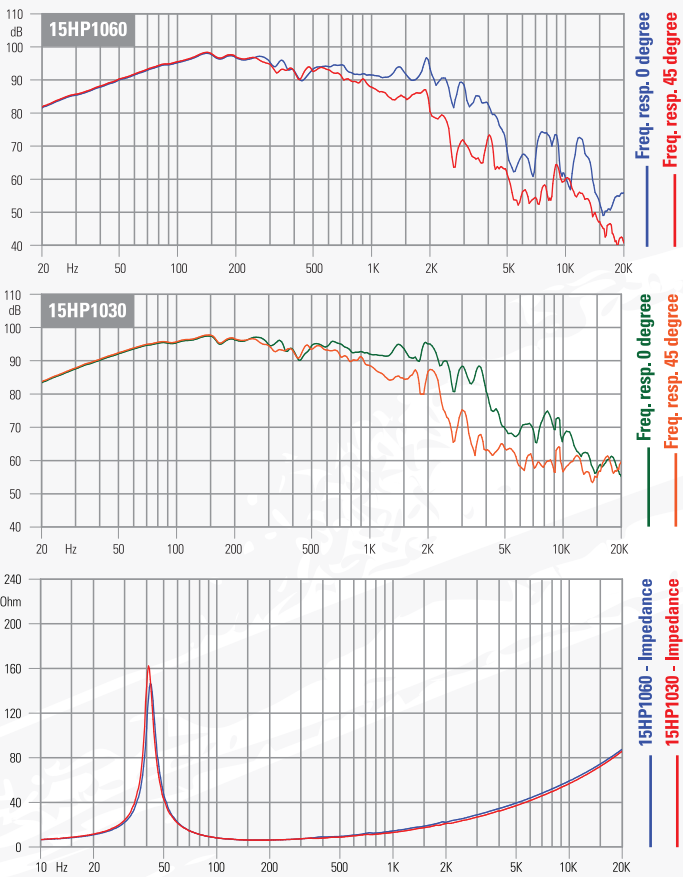
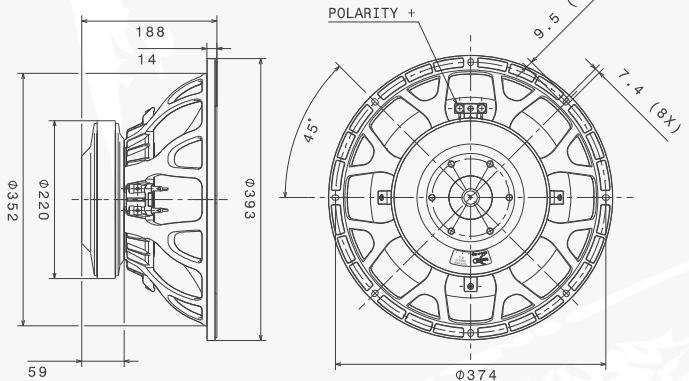
THIELE & SMALL PARAMETERS

	15HP1060	15HP1030
Fs	40 Hz	40 Hz
Re	5 Ω	5 Ω
Qes	0.32	0.35
Qms	11.4	11.8
Qts	0.31	0.34
Vas	100.3 dm³ (3.54 ft³)	95.0 dm³ (3.35 ft³)
Sd	842 cm² (130.51 in²)	842 cm² (130.51 in²)
Xmax (2)	12.45 mm	12.45 mm
Xdamage (3)	21 mm	23.05 mm
Mms	156.3 g	165.0 g
Bl	24.8 N/A	24.3 N/A
Le	1.32 mH	1.4 mH
Mmd	128.7 g	165 g
Cms	0.10 mm/N	0.10 mm/N
Rms	3.44 kg/s	3.5 kg/s
η _o (Eta Zero)	1.95 %	1.68 %
EBP	125 Hz	114 Hz

15HP1060



15HP1030



NEODYMIUM WOOFER

15HP1020

15" - 700 W - 98 dB

FERRITE WOOFER

15HP1010

15" - 700 W - 96 dB



NOMINAL SPECIFICATIONS

	15HP1020	15HP1010
Nominal Diameter	380 mm (15 in)	380 mm (15 in)
Overall Diameter	393 mm (15.47 in)	393 mm (15.47 in)
Bolt Circle Diameter	374 mm (14.72 in)	374 mm (14.72 in)
Baffle Cutout Diameter	356 mm (14.02 in)	354 mm (13.94 in)
Depth	181.3 mm (7.14 in)	183 mm (7.20 in)
Flange and gasket Thickness	13.7 mm (0.54 in)	13.3 mm (0.52 in)
Net Weight	6.2 kg (13.6 lb)	9.8 kg (21.5 lb)
Shipping Box	430 x 427 x 236 mm	430 x 427 x 236 mm
(Single Box)	(16.9 x 16.8 x 9.3 in)	(16.9 x 16.8 x 9.3 in)
Shipping Weight	7.2 kg (15.9 lb)	10.8 kg (23.8 lb)

NOTES:

- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
 - (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
 - (3) Maximum excursion before permanent damage
 - (4) Maximum power is defined as 3dB greater than nominal power
 - (5) Treated Polycotton
- PATENT IT2006/000327 (15HP1020)

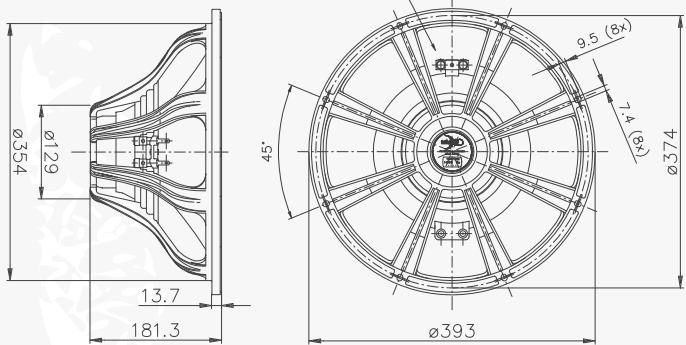
TECHNICAL PARAMETERS

	15HP1020	15HP1010
Nominal Impedance	8 Ω	8 Ω
Minimum Impedance	6.9 Ω	6.9 Ω
AES Power Handling (1)	700 W	700 W
Maximum Power Handling (4)	1400 W	1400 W
Sensitivity (1W/1m)	98 dB	96 dB
Frequency Range	40÷4000 Hz	40÷2500 Hz
Voice Coil Diameter	100 mm (4 in)	100 mm (4 in)
Winding Material	Al	Cu
Former Material	Glass Fiber	Glass Fiber
Winding Depth	22 mm (0.87 in)	23 mm (0.91 in)
Magnetic Gap Depth	12 mm (0.47 in)	10.5 mm (0.41 in)
Flux Density	1.3 T	1.05 T
Magnet	Neodymium Slug	Ferrite Ring
Basket Material	Aluminum	Aluminum
Demodulation	No	No
Cone Surround (5)	Triple Roll	Triple Roll
NET Air Volume filled by Loudspeaker	3.9 dm ³ (0.138 ft ³)	4.7 dm ³ (0.166 ft ³)
Spider Profile	2x non-adjacent symmetrical constant height waves	

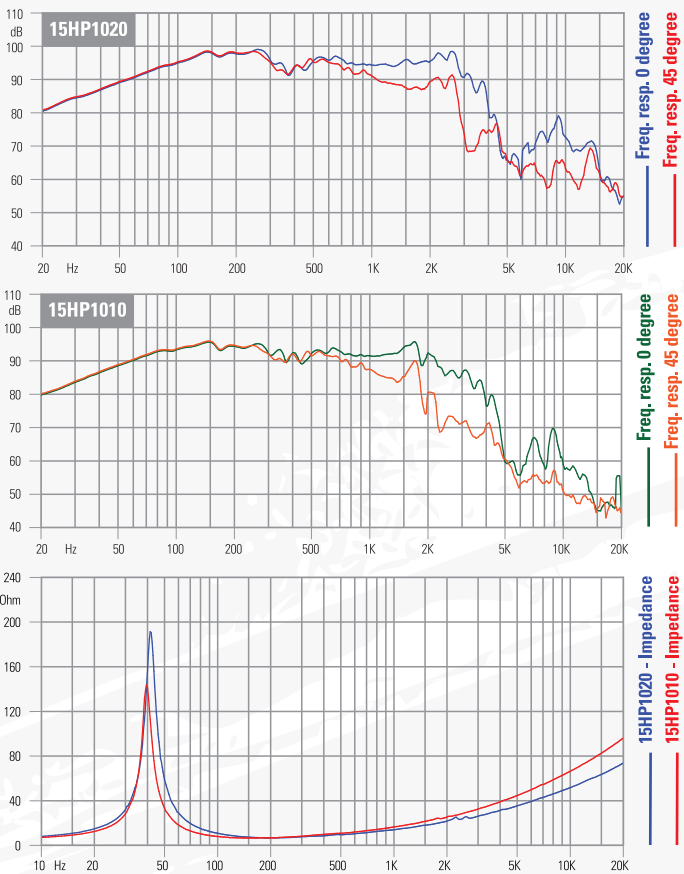
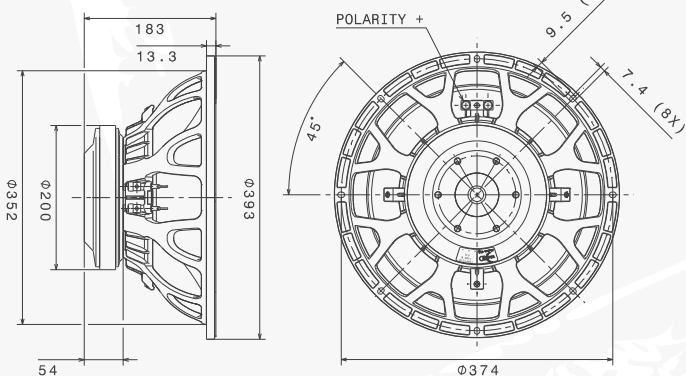
THIELE & SMALL PARAMETERS

	15HP1020	15HP1010
Fs	40 Hz	40 Hz
Re	5.5 Ω	5.3 Ω
Qes	0.28	0.38
Qms	10.2	10.0
Qts	0.27	0.37
Vas	126.6 dm ³ (4.47 ft ³)	107.5 dm ³ (3.80 ft ³)
Sd	822 cm ² (127.41 in ²)	822 cm ² (127.41 in ²)
Xmax (2)	9.00 mm	9.75 mm
Xdamage (3)	16 mm	21.9 mm
Mms	118.0 g	138.9 g
Bl	24.2 N/A	22 N/A
Le	1.2 mH	1.8 mH
Mmd	91.4 g	112.3 g
Cms	0.13 mm/N	0.11 mm/N
Rms	2.9 kg/s	3.5 kg/s
η_L (Eta Zero)	2.82 %	1.75 %
EBP	143 Hz	105 Hz

15HP1020



15HP1010



15FX600

15" - 700 W - 98 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	380 mm (15 in)
Overall Diameter	393 mm (15.47 in)
Bolt Circle Diameter	374 mm (14.72 in)
Baffle Cutout Diameter	354 mm (13.94 in)
Depth	194.3 mm (7.65 in)
Flange and gasket Thickness	13.7 mm (0.54 in)
Net Weight	5.9 kg (13.0 lb)
Shipping Box	430 x 427 x 236 mm
(Single Carton Box)	(16.9 x 16.8 x 9.3 in)
Shipping Weight	7.2 kg (15.9 lb)

NOTES:

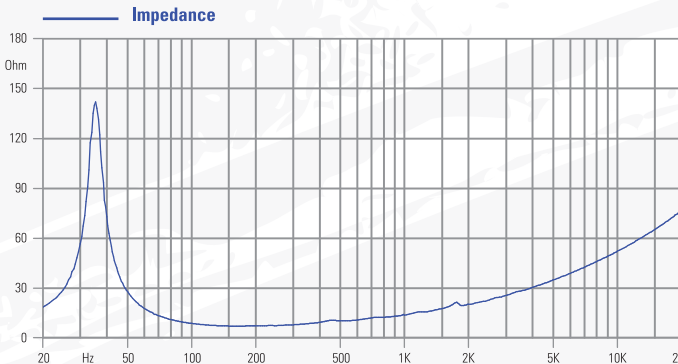
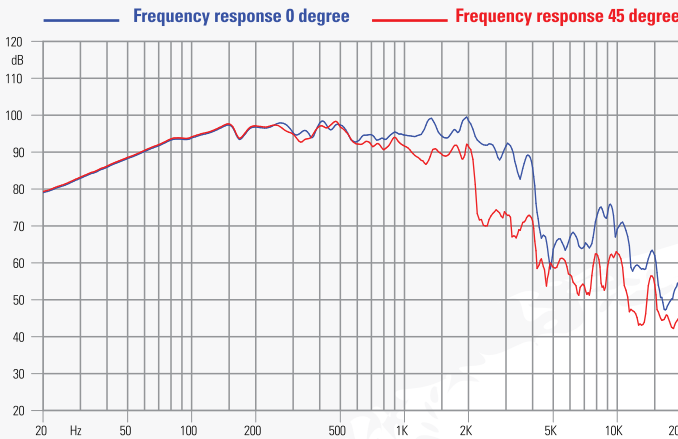
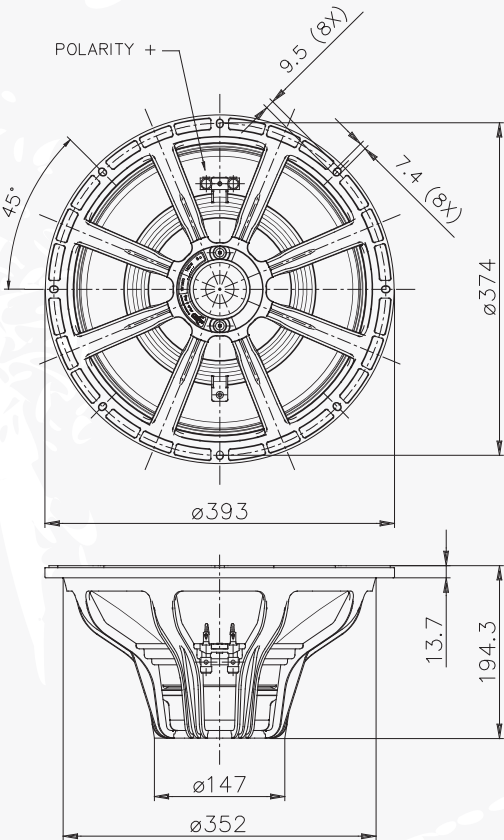
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
- (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
- (3) Maximum excursion before permanent damage
- (4) Maximum power is defined as 3dB greater than nominal power
- (5) Treated Polycotton

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	6.6 Ω
AES Power Handling (1)	700 W
Maximum Power Handling (4)	1400 W
Sensitivity (1W/1m)	98 dB
Frequency Range	40÷3150 Hz
Voice Coil Diameter	77 mm (3 in)
Winding Material	Cu
Former Material	Glass Fiber
Winding Depth	26.5 mm (1.04 in)
Magnetic Gap Depth	12 mm (0.47 in)
Flux Density	1.26 T
Magnet	Neodymium Ring
Basket Material	Aluminum
Demodulation	Aluminum Ring
Cone Surround (5)	Triple Roll
NET Air Volume filled by Loudspeaker	4.1 dm³ (0.145 ft³)
Spider Profile	1x variable height waves

THIELE & SMALL PARAMETERS

Fs	38 Hz
Re	5 Ω
Qes	0.28
Qms	6.9
Qts	0.27
Vas	128.3 dm³ (4.53 ft³)
Sd	864 cm² (133.92 in²)
Xmax (2)	11.25 mm
Xdamage (3)	22.9 mm
Mms	142.5 g
Bl	23.2 N/A
Le	1.26 mH
Mmd	113.8 g
Cms	0.12 mm/N
Rms	4.9 kg/s
η _o (Eta Zero)	2.16 %
EBP	136 Hz



15FX560

15" - 700 W - 99 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	380 mm (15 in)
Overall Diameter	418.4/388 mm (16.46/15.28 in)
Bolt Circle Diameter	374 mm (14.72 in)
Baffle Cutout Diameter	354 mm (13.98 in)
Depth	185 mm (7.28 in)
Flange and gasket Thickness	11.5 mm (0.45 in)
Net Weight	7.5 kg (16.5 lb)
Shipping Box	430 x 427 x 236 mm
(Single Carton Box)	(16.9 x 16.8 x 9.3 in)
Shipping Weight	8.6 kg (19.0 lb)

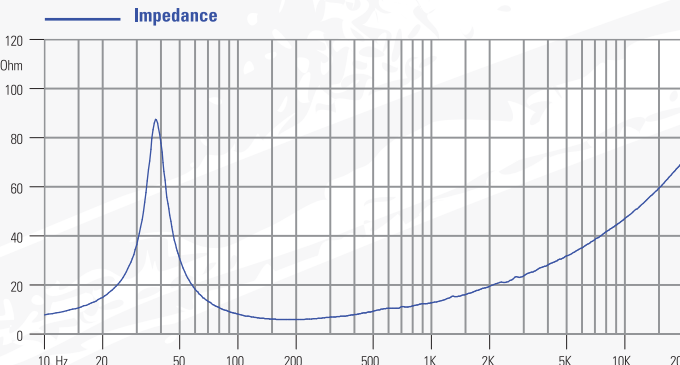
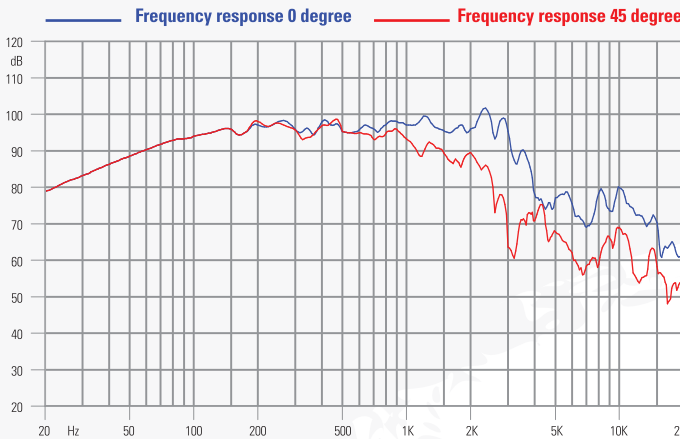
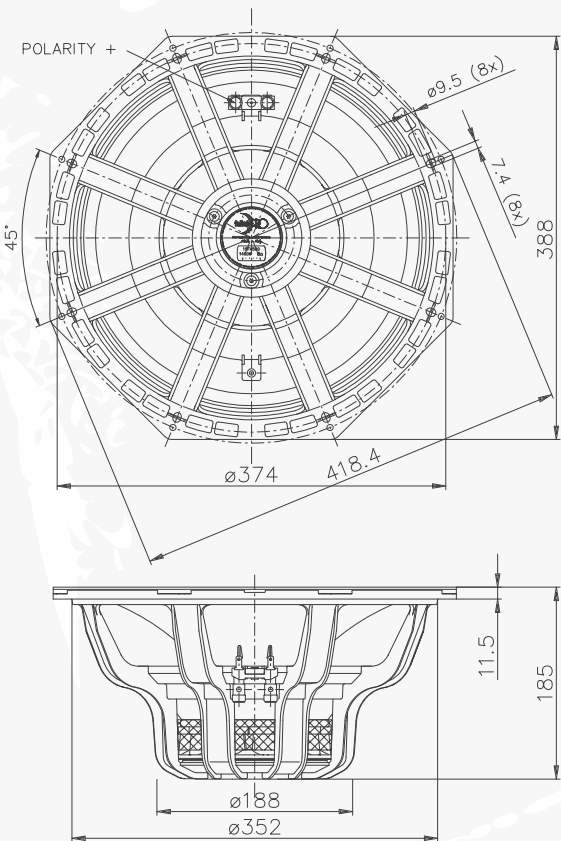
- NOTES:
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
 - (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth) / 2] + (magnetic\ gap\ depth / 3)$
 - (3) Maximum excursion before permanent damage
 - (4) Maximum power is defined as 3dB greater than nominal power
 - (5) Treated Polycotton
- PATENT PENDING

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	6.5 Ω
AES Power Handling (1)	700 W
Maximum Power Handling (4)	1400 W
Sensitivity (1W/1m)	99 dB
Frequency Range	40÷4000 Hz
Voice Coil Diameter	77 mm (3 in)
Winding Material	Al
Former Material	Glass Fiber
Winding Depth	23.5 mm (0.93 in)
Magnetic Gap Depth	14 mm (0.55 in)
Flux Density	1.1 T
Magnet	Neodymium Slug Crown
Basket Material	Aluminum
Demodulation	Aluminum Ring
Cone Surround (5)	Triple Roll
NET Air Volume filled by Loudspeaker	4.1 dm³ (0.145 ft³)
Spider Profile	1x variable height waves

THIELE & SMALL PARAMETERS

Fs	38 Hz
Re	5.2 Ω
Qes	0.31
Qms	6.8
Qts	0.30
Vas	159.0 dm³ (5.62 ft³)
Sd	864 cm² (133.92 in²)
Xmax (2)	9.42 mm
Xdamage (3)	21.8 mm
Mms	115.0 g
Bl	21.5 N/A
Le	0.64 mH
Mmd	86.3 g
Cms	0.15 mm/N
Rms	4.06 kg/s
η _o (Eta Zero)	2.47 %
EBP	123 Hz



15FH500

15" - 500 W - 98 dB

15FH520

15" - 600 W - 98 dB



NOMINAL SPECIFICATIONS

	15FH500	15FH520
Nominal Diameter	380 mm (15 in)	380 mm (15 in)
Overall Diameter	393 mm (15.47 in)	393 mm (15.47 in)
Bolt Circle Diameter	374 mm (14.72 in)	374 mm (14.72 in)
Baffle Cutout Diameter	356 mm (14.02 in)	356 mm (14.02 in)
Depth	181.3 mm (7.14 in)	181.3 mm (7.14 in)
Flange and gasket Thickness	13.7 mm (0.54 in)	13.7 mm (0.54 in)
Net Weight	4.3 kg (9.5 lb)	4.6 kg (10.1 lb)
Shipping Box	430 x 427 x 236 mm	430 x 427 x 236 mm
(Single Box)	(16.9 x 16.8 x 9.3 in)	(16.9 x 16.8 x 9.3 in)
Shipping Weight	5.4 kg (11.9 lb)	5.7 kg (12.6 lb)

NOTES:
(1) 2 Hours Test According to AES 2-1984 Rev. 2003
(2) Xmax = [(Winding Depth - magnetic gap depth)/2] + (magnetic gap depth / 3)
(3) Maximum excursion before permanent damage
(4) Maximum power is defined as 3dB greater than nominal power
(5) Treated Polycotton
PATENT IT2006/000327 (15FH500)

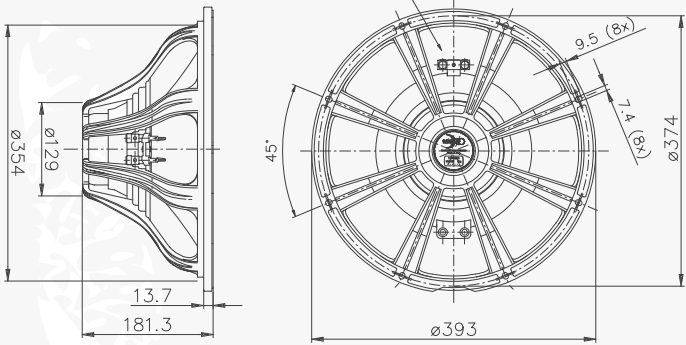
TECHNICAL PARAMETERS

	15FH500	15FH520
Nominal Impedance	8 Ω	8 Ω
Minimum Impedance	6 Ω	6.9 Ω
AES Power Handling (1)	500 W	600 W
Maximum Power Handling (4)	1000 W	1200 W
Sensitivity (1W/1m)	98 dB	98 dB
Frequency Range	35÷3150 Hz	40÷4000 Hz
Voice Coil Diameter	77 mm (3 in)	77 mm (3 in)
Winding Material	Cu	Al
Former Material	Glass Fiber	Glass Fiber
Winding Depth	22 mm (0.87 in)	21.5 mm (0.85 in)
Magnetic Gap Depth	10.5 mm (0.41 in)	12 mm (0.47 in)
Flux Density	1.2 T	1.1 T
Magnet	Neodymium Slug	Neodymium Slug
Basket Material	Aluminum	Aluminum
Demodulation	No	Aluminum Ring
Cone Surround (5)	M-Roll	Triple Roll
NET Air Volume filled by Loudspeaker	3.4 dm³ (0.120 ft³)	3.4 dm³ (0.120 ft³)
Spider Profile	1x variable height waves	

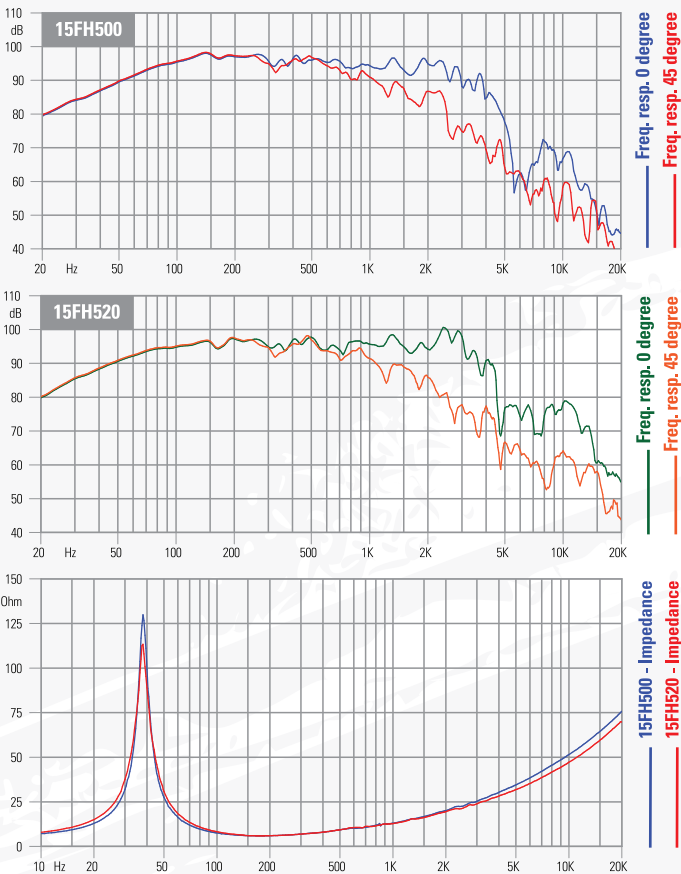
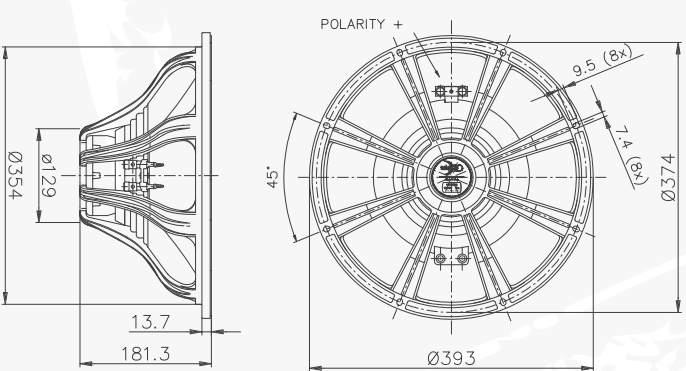
THIELE & SMALL PARAMETERS

	15FH500	15FH520
Fs	35 Hz	36 Hz
Re	5.1 Ω	5.6 Ω
Qes	0.32	0.41
Qms	10.4	10.1
Qts	0.31	0.39
Vas	199.2 dm³ (7.03 ft³)	186.5 dm³ (6.59 ft³)
Sd	847 cm² (131.29 in²)	847 cm² (131.29 in²)
Xmax (2)	9.25 mm	8.75 mm
Xdamage (3)	16 mm	16 mm
Mms	104.0 g	105.0 g
Bl	19.2 N/A	18.4 N/A
Le	1.3 mH	0.89 mH
Mmd	76.1 g	77.1 g
Cms	0.20 mm/N	0.19 mm/N
Rms	2.2 kg/s	2.4 kg/s
η _o (Eta Zero)	2.38 %	2.15 %
EBP	109 Hz	88 Hz

15FH500



15FH520



FERRITE WOOFER

15FH510

15" - 500 W - 98 dB

FERRITE MID WOOFER

15FH530

15" - 500 W - 97 dB



NOMINAL SPECIFICATIONS

	15FH510	15FH530
Nominal Diameter	380 mm (15 in)	380 mm (15 in)
Overall Diameter	393 mm (15.47 in)	393 mm (15.47 in)
Bolt Circle Diameter	374 mm (14.72 in)	374 mm (14.72 in)
Baffle Cutout Diameter	354 mm (13.94 in)	354 mm (13.94 in)
Depth	180 mm (7.09 in)	180 mm (7.09 in)
Flange and gasket Thickness	13.1 mm (0.52 in)	13.1 mm (0.52 in)
Net Weight	8.4 kg (18.5 lb)	8.5 kg (18.7 lb)
Shipping Box	430 x 427 x 236 mm	430 x 427 x 236 mm
(Single Box)	(16.9 x 16.8 x 9.3 in)	(16.9 x 16.8 x 9.3 in)
Shipping Weight	9.5 kg (20.9 lb)	9.6 kg (21.2 lb)

NOTES:

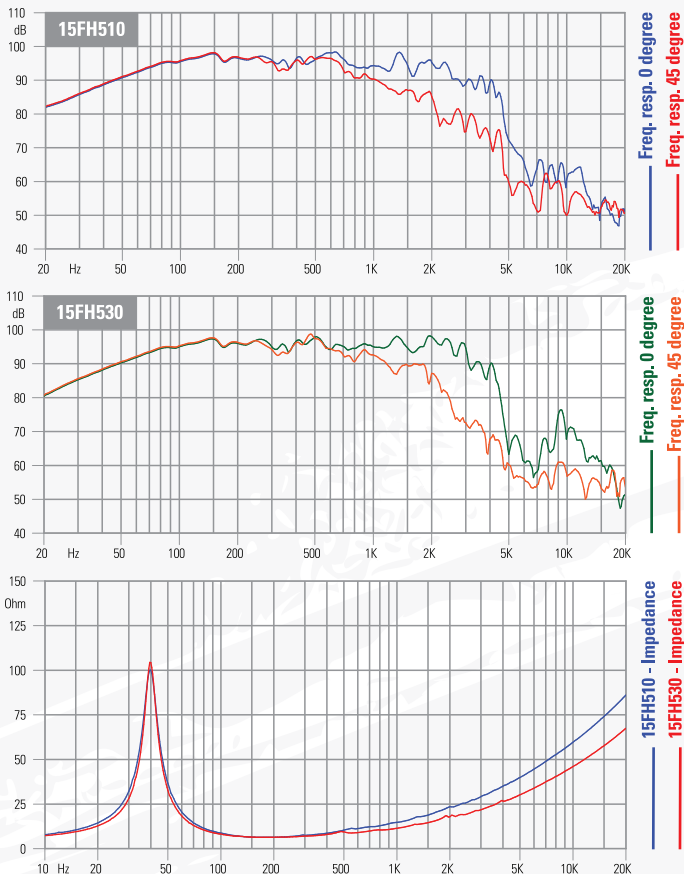
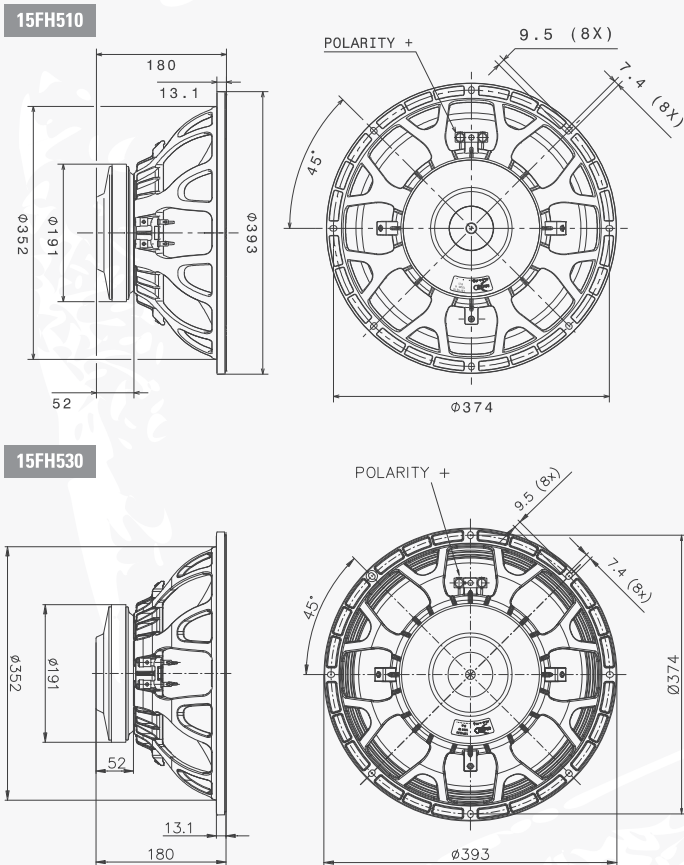
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
- (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
- (3) Maximum excursion before permanent damage
- (4) Maximum power is defined as 3dB greater than nominal power
- (5) Treated Polycotton

TECHNICAL PARAMETERS

	15FH510	15FH530
Nominal Impedance	8 Ω	8 Ω
Minimum Impedance	6.3 Ω	6.7 Ω
AES Power Handling (1)	500 W	500 W
Maximum Power Handling (4)	1000 W	1000 W
Sensitivity (1W/1m)	98 dB	97 dB
Frequency Range	35÷3150 Hz	40÷3150 Hz
Voice Coil Diameter	77 mm (3 in)	77 mm (3 in)
Winding Material	Cu	Cu
Former Material	Glass Fiber	Glass Fiber
Winding Depth	22 mm (0.87 in)	22 mm (0.87 in)
Magnetic Gap Depth	10.5 mm (0.41 in)	10.5 mm (0.41 in)
Flux Density	1.2 T	1.2 T
Magnet	Ferrite Ring	Ferrite Ring
Basket Material	Aluminum	Aluminum
Demodulation	No	Aluminum Ring
Cone Surround (5)	M-Roll	Triple Roll
NET Air Volume filled by Loudspeaker	4.1 dm³ (0.145 ft³)	4.1 dm³ (0.145 ft³)
Spider Profile	1x variable height waves	

THIELE & SMALL PARAMETERS

	15FH510	15FH530
Fs	35 Hz	39 Hz
Re	5.1 Ω	5.1 Ω
Qes	0.27	0.36
Qms	10.7	8.9
Qts	0.26	0.35
Vas	191.8 dm³ (6.77 ft³)	140.6 dm³ (4.96 ft³)
Sd	847 cm² (131.29 in²)	864 cm² (133.92 in²)
Xmax (2)	9.25 mm	9.25 mm
Xdamage (3)	16 mm	16 mm
Mms	108.0 g	123.5 g
Bl	21 N/A	20.7 N/A
Le	1.4 mH	1.1 mH
Mmd	80.1 g	94.8 g
Cms	0.19 mm/N	0.13 mm/N
Rms	2.2 kg/s	3.4 kg/s
η _o (Eta Zero)	2.90 %	2.24 %
EBP	130 Hz	108 Hz



15PR400

15" - 400 W - 99 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	380 mm (15 in)
Overall Diameter	393 mm (15.47 in)
Bolt Circle Diameter	374 mm (14.72 in)
Baffle Cutout Diameter	356 mm (14.02 in)
Depth	165 mm (6.50 in)
Flange and gasket Thickness	13.1 mm (0.52 in)
Net Weight	3.6 kg (7.9 lb)
Shipping Box	430 x 427 x 236 mm
(Single Carton Box)	(16.9 x 16.8 x 9.3 in)
Shipping Weight	4.7 kg (10.4 lb)

NOTES:

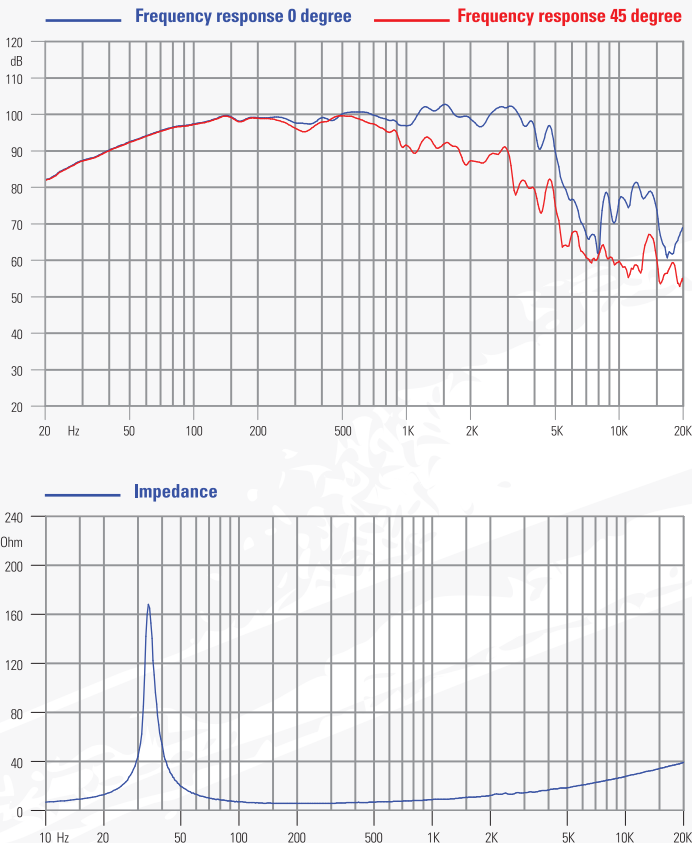
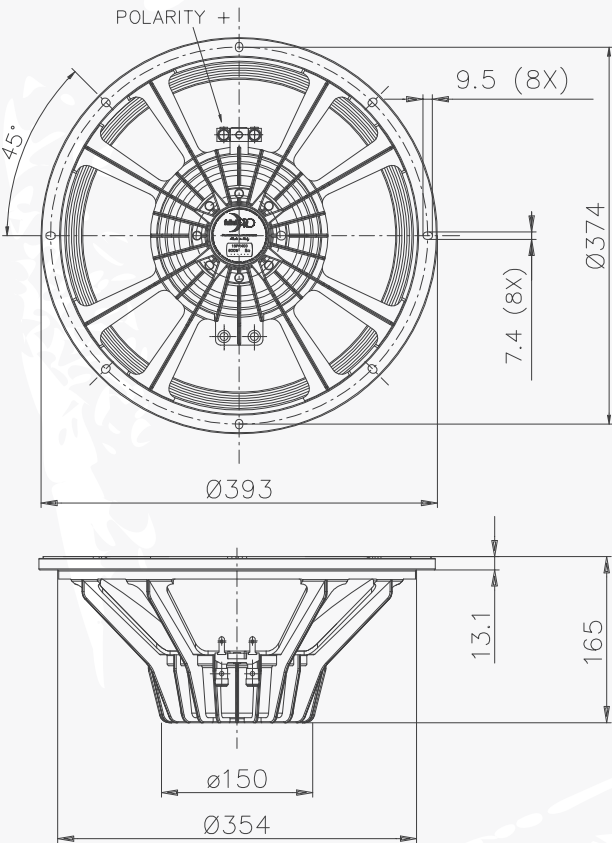
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
- (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth) / 2] + (magnetic\ gap\ depth / 3)$
- (3) Maximum excursion before permanent damage
- (4) Maximum power is defined as 3dB greater than nominal power
- (5) Treated Polycotton

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	5.9 Ω
AES Power Handling (1)	400 W
Maximum Power Handling (4)	800 W
Sensitivity (1W/1m)	99 dB
Frequency Range	35÷4000 Hz
Voice Coil Diameter	77 mm (3 in)
Winding Material	Al
Former Material	Glass Fiber
Winding Depth	15 mm (0.59 in)
Magnetic Gap Depth	10.5 mm (0.41 in)
Flux Density	1.15 T
Magnet	Neodymium Slug
Basket Material	Aluminum
Demodulation	No
Cone Surround (5)	Accordion (4 waves)
NET Air Volume filled by Loudspeaker	3.7 dm³ (0.131 ft³)
Spider Profile	1x constant height waves

THIELE & SMALL PARAMETERS

Fs	35 Hz
Re	5.1 Ω
Qes	0.34
Qms	6.0
Qts	0.32
Vas	248.9 dm³ (8.79 ft³)
Sd	857 cm² (132.84 in²)
Xmax (2)	5.75 mm
Xdamage (3)	15.5 mm
Mms	85.2 g
Bl	16.7 N/A
Le	0.72 mH
Mmd	56.8 g
Cms	0.24 mm/N
Rms	3.1 kg/s
η _o (Eta Zero)	3.02 %
EBP	103 Hz



15PR450

15" - 400 W - 98 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	380 mm (15 in)
Overall Diameter	393 mm (15.47 in)
Bolt Circle Diameter	374 mm (14.72 in)
Baffle Cutout Diameter	356 mm (14.02 in)
Depth	172.6 mm (6.80 in)
Flange and gasket Thickness	13.6 mm (0.54 in)
Net Weight	7.8 kg (17.2 lb)
Shipping Box	430 x 427 x 236 mm
(Single Carton Box)	(16.9 x 16.8 x 9.3 in)
Shipping Weight	8.9 kg (19.6 lb)

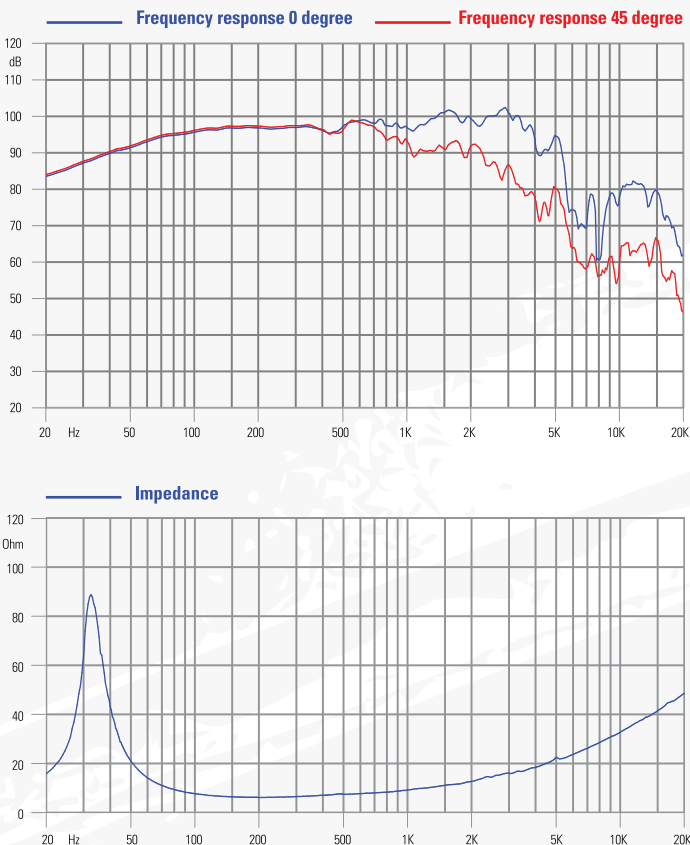
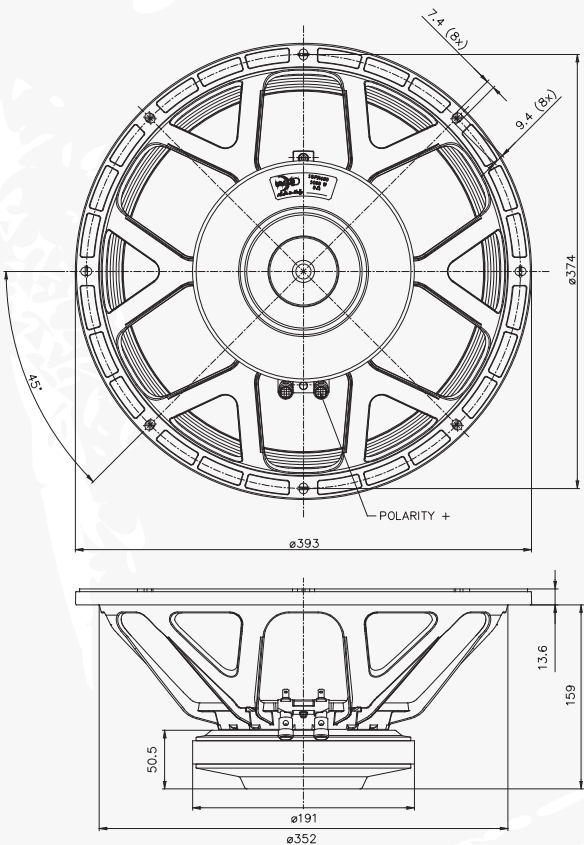
- NOTES:
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
 - (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth) / 2] + (magnetic\ gap\ depth / 3)$
 - (3) Maximum excursion before permanent damage
 - (4) Maximum power is defined as 3dB greater than nominal power
 - (5) Treated Polycotton

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	6.2 Ω
AES Power Handling (1)	400 W
Maximum Power Handling (4)	800 W
Sensitivity (1W/1m)	98 dB
Frequency Range	35÷4000 Hz
Voice Coil Diameter	77 mm (3 in)
Winding Material	Al
Former Material	Glass Fiber
Winding Depth	15 mm (0.59 in)
Magnetic Gap Depth	9 mm (0.35 in)
Flux Density	1.15 T
Magnet	Ferrite Ring
Basket Material	Aluminum
Demodulation	Aluminum Ring
Cone Surround (5)	Accordion (4 waves)
NET Air Volume filled by Loudspeaker	4.1 dm³ (0.145 ft³)
Spider Profile	1x constant height waves

THIELE & SMALL PARAMETERS

Fs	35 Hz
Re	5.1 Ω
Qes	0.37
Qms	6.9
Qts	0.35
Vas	235.6 dm³ (8.32 ft³)
Sd	857 cm² (132.84 in²)
Xmax (2)	6.00 mm
Xdamage (3)	23 mm
Mms	90 g
Bl	16.6 N/A
Le	0.65 mH
Mmd	61.6 g
Cms	0.23 mm/N
Rms	2.9 kg/s
η₀ (Eta Zero)	2.67 %
EBP	96 Hz



15PR300

15" - 300 W - 97 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	380 mm (15 in)
Overall Diameter	393 mm (15.47 in)
Bolt Circle Diameter	374 mm (14.72 in)
Baffle Cutout Diameter	356 mm (14.02 in)
Depth	165 mm (6.50 in)
Flange and gasket Thickness	13.1 mm (0.52 in)
Net Weight	3.2 kg (7.1 lb)
Shipping Box	430 x 427 x 236 mm
(Single Carton Box)	(16.9 x 16.8 x 9.3 in)
Shipping Weight	4.3 kg (9.5 lb)

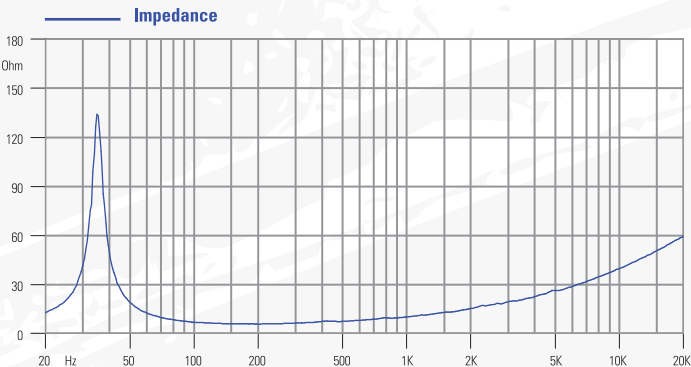
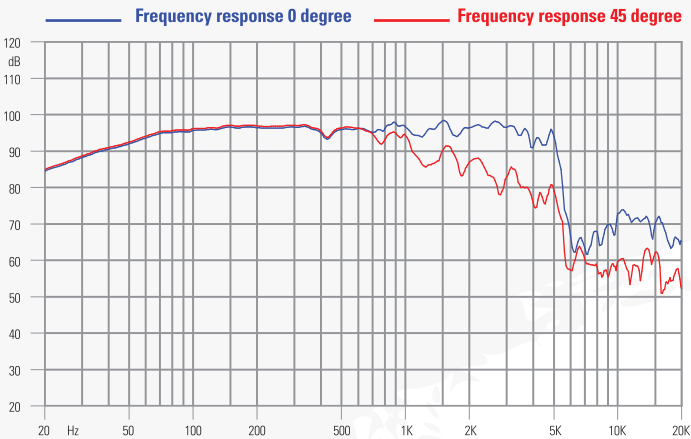
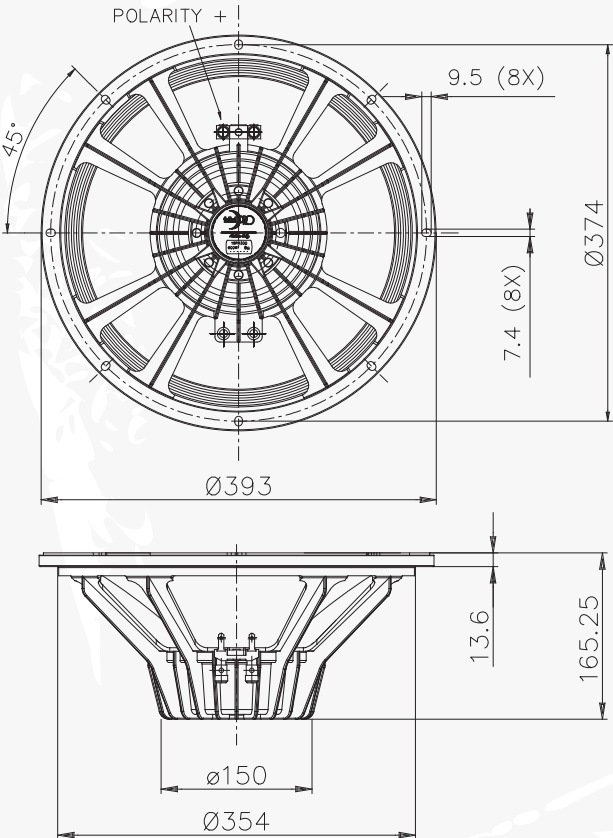
- NOTES:
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
 - (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth) / 2] + (magnetic\ gap\ depth / 3)$
 - (3) Maximum excursion before permanent damage
 - (4) Maximum power is defined as 3dB greater than nominal power
 - (5) Treated Polycotton

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	6 Ω
AES Power Handling (1)	300 W
Maximum Power Handling (4)	600 W
Sensitivity (1W/1m)	97 dB
Frequency Range	35÷4000 Hz
Voice Coil Diameter	65 mm (2.56 in)
Winding Material	Cu
Former Material	Glass Fiber
Winding Depth	13.2 mm (0.52 in)
Magnetic Gap Depth	8.2 mm (0.32 in)
Flux Density	1.2 T
Magnet	Neodymium Slug
Basket Material	Aluminum
Demodulation	No
Cone Surround (5)	Accordion (4 waves)
NET Air Volume filled by Loudspeaker	3 dm³ (0.106 ft³)
Spider Profile	1x constant height waves

THIELE & SMALL PARAMETERS

Fs	35 Hz
Re	5.4 Ω
Qes	0.5
Qms	14.0
Qts	0.48
Vas	220.1 dm³ (7.77 ft³)
Sd	870 cm² (134.79 in²)
Xmax (2)	5.23 mm
Xdamage (3)	12.3 mm
Mms	99.2 g
Bl	15.6 N/A
Le	0.89 mH
Mmd	70.2 g
Cms	0.21 mm/N
Rms	1.6 kg/s
η _o (Eta Zero)	1.89 %
EBP	70 Hz



12XL1200

12" - 1400 W - 93 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	300 mm (12 in)
Overall Diameter	316 mm (12.44 in)
Bolt Circle Diameter	298.5 mm (11.75 in)
Baffle Cutout Diameter	282 mm (11.10 in)
Depth	168.75 mm (6.64 in)
Flange and gasket Thickness	12.45 mm (0.49 in)
Net Weight	6.8 kg (15.0 lb)
Shipping Box	350 x 346 x 216 mm
(Single Carton Box)	(13.8 x 13.6 x 8.5 in)
Shipping Weight	7.5 kg (16.5 lb)

NOTES:

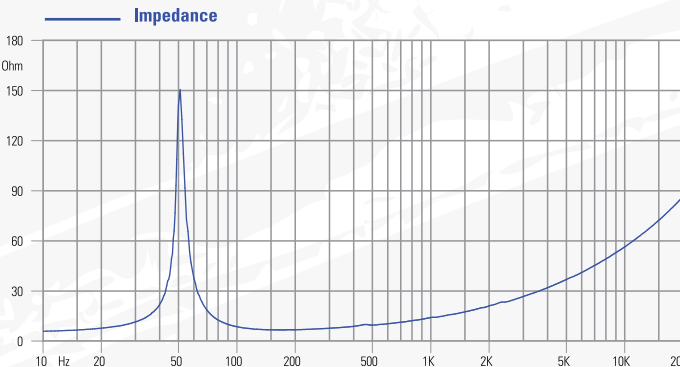
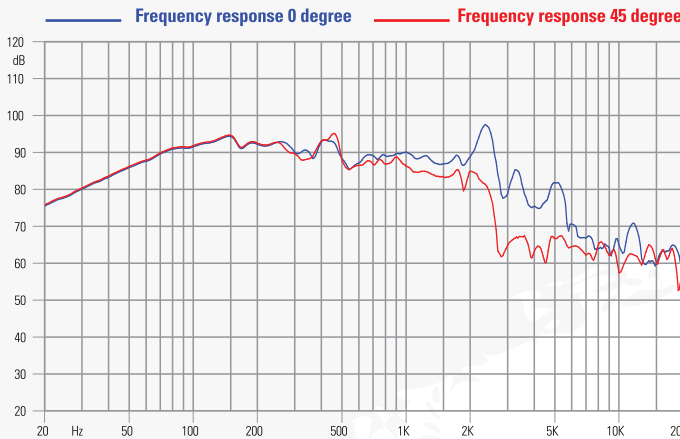
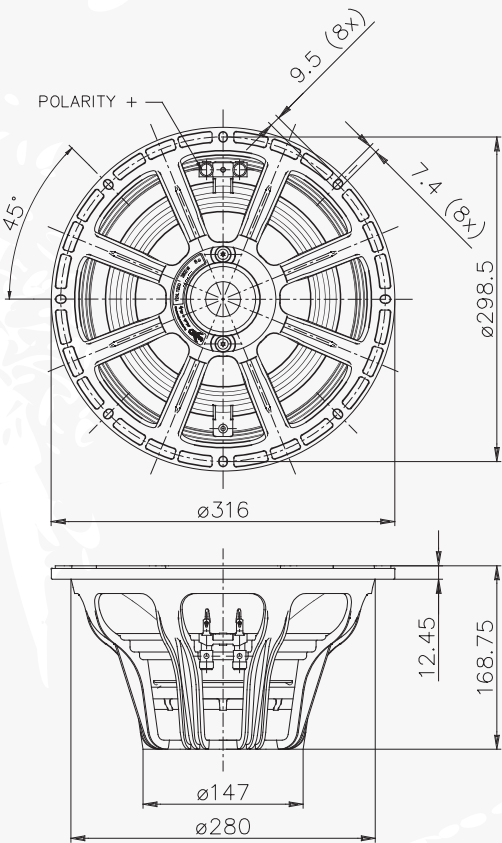
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
- (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
- (3) Maximum excursion before permanent damage
- (4) Maximum power is defined as 3dB greater than nominal power
- (5) Treated Polycotton

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	6.5 Ω
AES Power Handling (1)	1400 W
Maximum Power Handling (4)	2800 W
Sensitivity (1W/1m)	93 dB
Frequency Range	50÷2500 Hz
Voice Coil Diameter	100 mm (4 in)
Winding Material	Cu
Former Material	Glass Fiber
Winding Depth	28.9 mm (1.14 in)
Magnetic Gap Depth	12 mm (0.47 in)
Flux Density	1.1 T
Magnet	Neodymium Ring
Basket Material	Aluminum
Demodulation	Aluminum Ring
Cone Surround (5)	Triple Roll
NET Air Volume filled by Loudspeaker	2.9 dm³ (0.102 ft³)
Spider Profile	2x non-adjacent symmetrical variable height waves

THIELE & SMALL PARAMETERS

Fs	50 Hz
Re	5 Ω
Qes	0.43
Qms	14.8
Qts	0.42
Vas	25.0 dm³ (0.88 ft³)
Sd	518 cm² (80.29 in²)
Xmax (2)	12.45 mm
Xdamage (3)	24 mm
Mms	152 g
Bl	23.6 N/A
Le	1.3 mH
Mmd	138.7 g
Cms	0.07 mm/N
Rms	3.2 kg/s
η₀ (Eta Zero)	0.71 %
EBP	116 Hz



NEODYMIUM SUBWOOFER

12HP1060

12" - 1000 W - 95 dB

FERRITE SUBWOOFER

12HP1030

12" - 1000 W - 95 dB



NOMINAL SPECIFICATIONS

	12HP1060	12HP1030
Nominal Diameter	300 mm (12 in)	300 mm (12 in)
Overall Diameter	316 mm (12.44 in)	316 mm (12.44 in)
Bolt Circle Diameter	298.5 mm (11.75 in)	298.5 mm (11.75 in)
Baffle Cutout Diameter	282 mm (11.10 in)	282 mm (11.10 in)
Depth	168.75 mm (6.64 in)	147 mm (5.79 in)
Flange and gasket Thickness	12.45 mm (0.49 in)	12 mm (0.47 in)
Net Weight	6.6 kg (14.6 lb)	11.1 kg (24.5 lb)
Shipping Box	350 x 346 x 216 mm	350 x 346 x 190 mm
(Single Box)	(13.8 x 13.6 x 8.5 in)	(13.8 x 13.6 x 7.5 in)
Shipping Weight	7.3 kg (16.1 lb)	11.8 kg (26.0 lb)

- NOTES:
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
 - (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth) / 2] + (magnetic\ gap\ depth / 3)$
 - (3) Maximum excursion before permanent damage
 - (4) Maximum power is defined as 3dB greater than nominal power
 - (5) Treated Polycotton

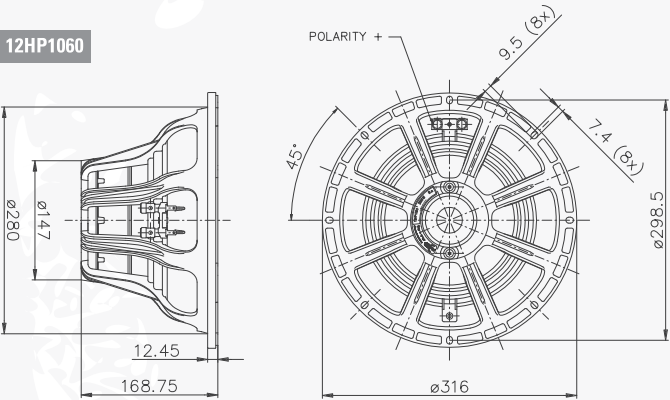
TECHNICAL PARAMETERS

	12HP1060	12HP1030
Nominal Impedance	8 Ω	8 Ω
Minimum Impedance	6.5 Ω	6.7 Ω
AES Power Handling (1)	1000 W	1000 W
Maximum Power Handling (4)	2000 W	2000 W
Sensitivity (1W/1m)	95 dB	95 dB
Frequency Range	45÷2500 Hz	45÷1600 Hz
Voice Coil Diameter	100 mm (4 in)	100 mm (4 in)
Winding Material	Cu	Cu
Former Material	Glass Fiber	Glass Fiber
Winding Depth	28.9 mm (1.14 in)	28.9 mm (1.14 in)
Magnetic Gap Depth	12 mm (0.47 in)	12 mm (0.47 in)
Flux Density	1.22 T	1.1 T
Magnet	Neodymium Ring	Ferrite Ring
Basket Material	Aluminum	Aluminum
Demodulation	Aluminum Ring	Aluminum Ring
Cone Surround (5)	Triple Roll	Triple Roll
NET Air Volume filled by Loudspeaker	2.9 dm³ (0.102 ft³)	3.7 dm³ (0.131 ft³)
Spider Profile	2x non-adjacent symmetrical variable height waves	

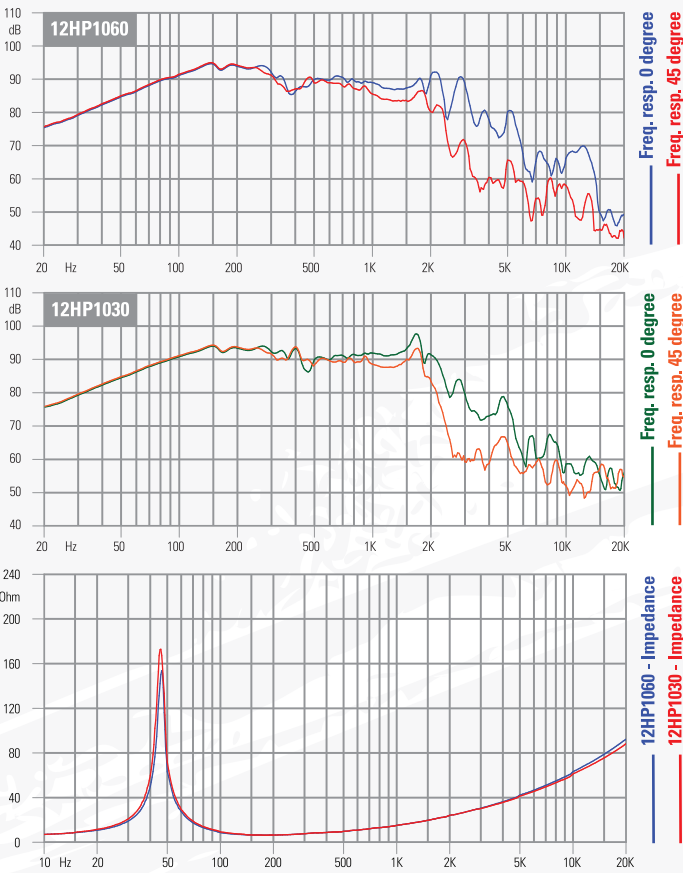
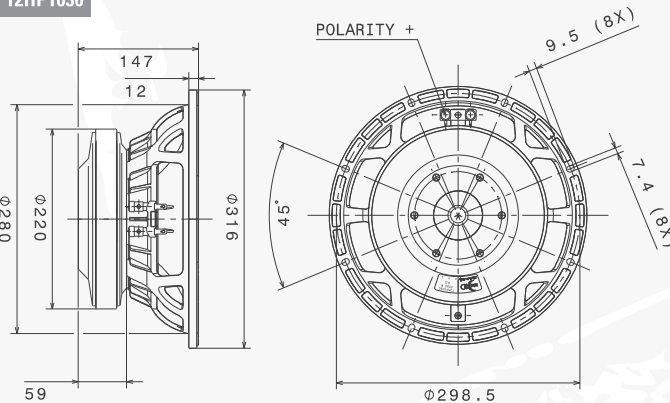
THIELE & SMALL PARAMETERS

	12HP1060	12HP1030
Fs	45 Hz	45 Hz
Re	5 Ω	5 Ω
Qes	0.29	0.31
Qms	12.1	13.8
Qts	0.28	0.30
Vas	36.9 dm³ (1.30 ft³)	35.9 dm³ (1.27 ft³)
Sd	518 cm² (80.29 in²)	518 cm² (80.29 in²)
Xmax (2)	12.45 mm	12.45 mm
Xdamage (3)	21 mm	20.5 mm
Mms	126.9 g	130.5 g
Bl	24.8 N/A	24.3 N/A
Le	1.38 mH	1.35 mH
Mmd	113.69 g	117.2 g
Cms	0.10 mm/N	0.10 mm/N
Rms	3.0 kg/s	2.7 kg/s
ηe (Eta Zero)	1.12 %	1.02 %
EBP	155 Hz	145 Hz

12HP1060



12HP1030



12RS1066

12" - 1000 W - 93 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	300 mm (12 in)
Overall Diameter	316 mm (12.44 in)
Bolt Circle Diameter	298.5 mm (11.75 in)
Baffle Cutout Diameter	282 mm (11.10 in)
Depth	176.5 mm (6.95 in)
Flange and gasket Thickness	20.2 mm (0.80 in)
Net Weight	6.6 kg (14.6 lb)
Shipping Box	350 x 346 x 216 mm
(Single Carton Box)	(13.8 x 13.6 x 8.5 in)
Shipping Weight	7.3 kg (16.1 lb)

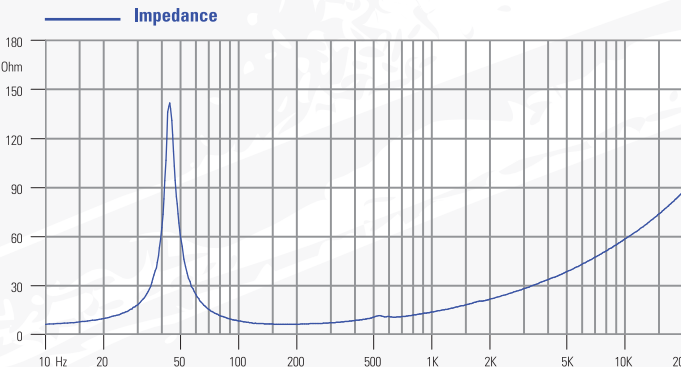
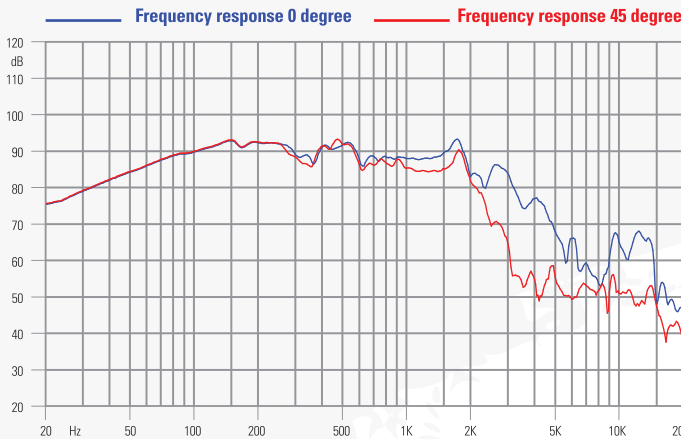
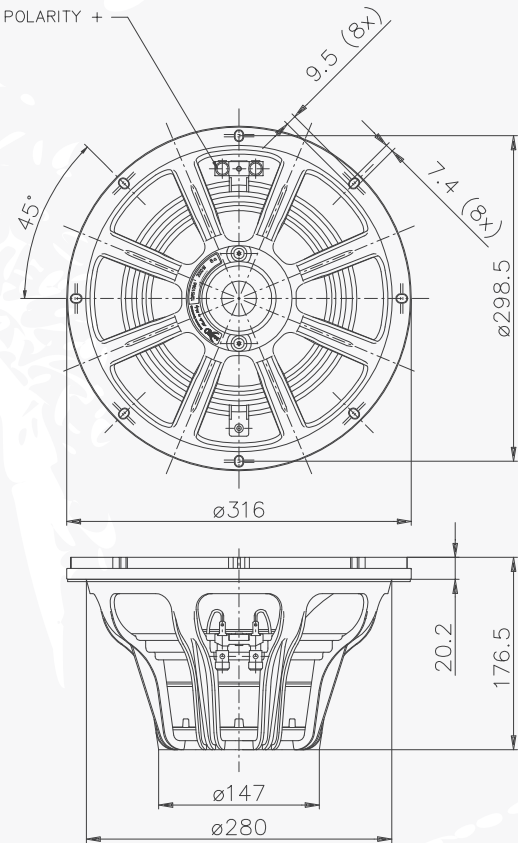
- NOTES:
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
 - (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
 - (3) Maximum excursion before permanent damage
 - (4) Maximum power is defined as 3dB greater than nominal power
 - (5) NBR (Rubber)

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	6.5 Ω
AES Power Handling (1)	1000 W
Maximum Power Handling (4)	2000 W
Sensitivity (1W/1m)	93 dB
Frequency Range	45÷2500 Hz
Voice Coil Diameter	100 mm (4 in)
Winding Material	Cu
Former Material	Glass Fiber
Winding Depth	28.9 mm (1.14 in)
Magnetic Gap Depth	12 mm (0.47 in)
Flux Density	1.22 T
Magnet	Neodymium Ring
Basket Material	Aluminum
Demodulation	Aluminum Ring
Cone Surround (5)	Half Roll
NET Air Volume filled by Loudspeaker	2.9 dm³ (0.102 ft³)
Spider Profile	2x non-adjacent symmetrical variable height waves

THIELE & SMALL PARAMETERS

Fs	42 Hz
Re	5 Ω
Qes	0.34
Qms	13.9
Qts	0.33
Vas	31.5 dm³ (1.11 ft³)
Sd	496 cm² (76.88 in²)
Xmax (2)	12.45 mm
Xdamage (3)	20.5 mm
Mms	156.5 g
Bl	24.8 N/A
Le	1.35 mH
Mmd	144.0 g
Cms	0.09 mm/N
Rms	3.0 kg/s
η _o (Eta Zero)	0.67 %
EBP	124 Hz



NEODYMIUM WOOFER

12HP1020

12" - 700 W - 97 dB

FERRITE WOOFER

12HP1010

12" - 700 W - 96 dB



NOMINAL SPECIFICATIONS

	12HP1020	12HP1010
Nominal Diameter	300 mm (12 in)	300 mm (12 in)
Overall Diameter	316 mm (12.44 in)	316 mm (12.44 in)
Bolt Circle Diameter	298.5 mm (11.75 in)	298.5 mm (11.75 in)
Baffle Cutout Diameter	284 mm (11.18 in)	282 mm (11.10 in)
Depth	155.75 mm (6.13 in)	142 mm (5.59 in)
Flange and gasket Thickness	12.45 mm (0.49 in)	12 mm (0.47 in)
Net Weight	5.8 kg (12.8 lb)	9.2 kg (20.3 lb)
Shipping Box	350 x 346 x 216 mm	350 x 346 x 190 mm
(Single Box)	(13.8 x 13.6 x 8.5 in)	(13.8 x 13.6 x 7.5 in)
Shipping Weight	6.5 kg (14.3 lb)	10 kg (22.0 lb)

- NOTES:
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
 - (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
 - (3) Maximum excursion before permanent damage
 - (4) Maximum power is defined as 3dB greater than nominal power
 - (5) Treated Polycotton

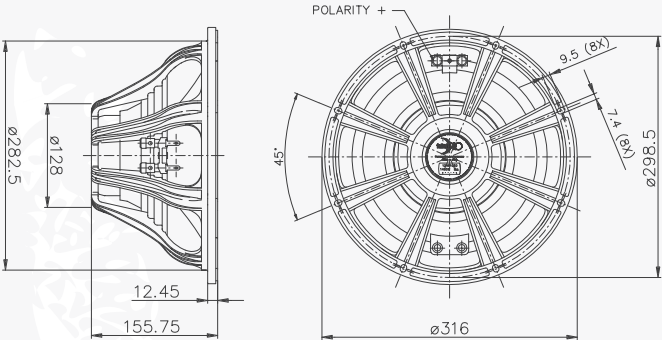
TECHNICAL PARAMETERS

	12HP1020	12HP1010
Nominal Impedance	8 Ω	8 Ω
Minimum Impedance	7.1 Ω	7 Ω
AES Power Handling (1)	700 W	700 W
Maximum Power Handling (4)	1400 W	1400 W
Sensitivity (1W/1m)	97 dB	96 dB
Frequency Range	55÷3150 Hz	45÷3150 Hz
Voice Coil Diameter	100 mm (4 in)	100 mm (4 in)
Winding Material	Al	Al
Former Material	Glass Fiber	Glass Fiber
Winding Depth	22 mm (0.87 in)	22 mm (0.87 in)
Magnetic Gap Depth	12 mm (0.47 in)	10.5 mm (0.41 in)
Flux Density	1.3 T	1.05 T
Magnet	Neodymium Slug	Ferrite Ring
Basket Material	Aluminum	Aluminum
Demodulation	No	No
Cone Surround (5)	M-Roll	M-Roll
NET Air Volume filled by Loudspeaker	2.8 dm³ (0.099 ft³)	3.3 dm³ (0.117 ft³)
Spider Profile	2x non-adjacent symmetrical constant height waves	

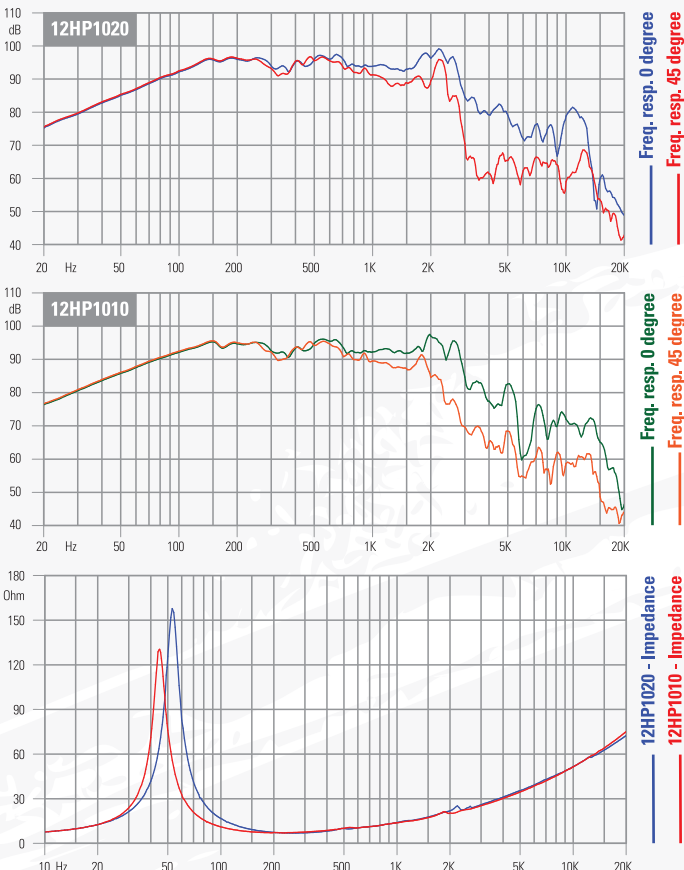
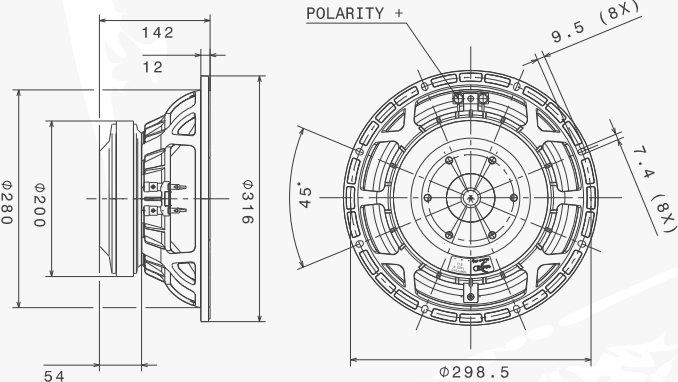
THIELE & SMALL PARAMETERS

	12HP1020	12HP1010
Fs	55 Hz	45 Hz
Re	5.5 Ω	5.5 Ω
Qes	0.28	0.35
Qms	9.4	9.4
Qts	0.27	0.34
Vas	38.6 dm³ (1.36 ft³)	56.5 dm³ (1.99 ft³)
Sd	533 cm² (82.62 in²)	531 cm² (82.31 in²)
Xmax (2)	9.00 mm	9.25 mm
Xdamage (3)	16 mm	21.9 mm
Mms	86.0 g	87.2 g
Bl	24.3 N/A	19.8 N/A
Le	1.1 mH	1.33 mH
Mmd	72.1 g	73.4 g
Cms	0.10 mm/N	0.14 mm/N
Rms	3.2 kg/s	2.6 kg/s
η _e (Eta Zero)	2.25 %	1.44 %
EBP	196 Hz	129 Hz

12HP1020



12HP1010



12FX600

12" - 700 W - 97 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	300 mm (12 in)
Overall Diameter	316 mm (12.44 in)
Bolt Circle Diameter	298.5 mm (11.75 in)
Baffle Cutout Diameter	282 mm (11.10 in)
Depth	168.75 mm (6.64 in)
Flange and gasket Thickness	12.45 mm (0.49 in)
Net Weight	5.5 kg (12.1 lb)
Shipping Box	350 x 346 x 216 mm
(Single Carton Box)	(13.8 x 13.6 x 8.5 in)
Shipping Weight	6.2 kg (13.7 lb)

NOTES:

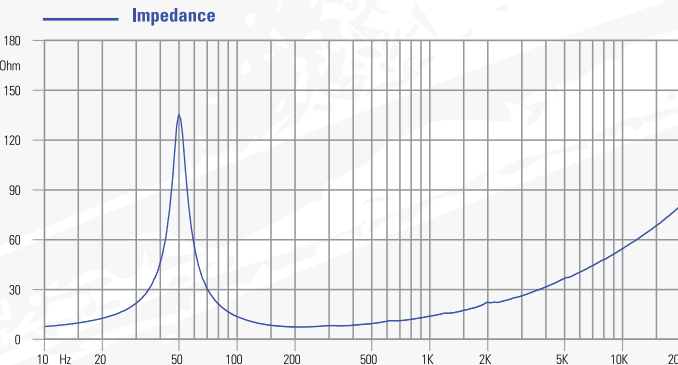
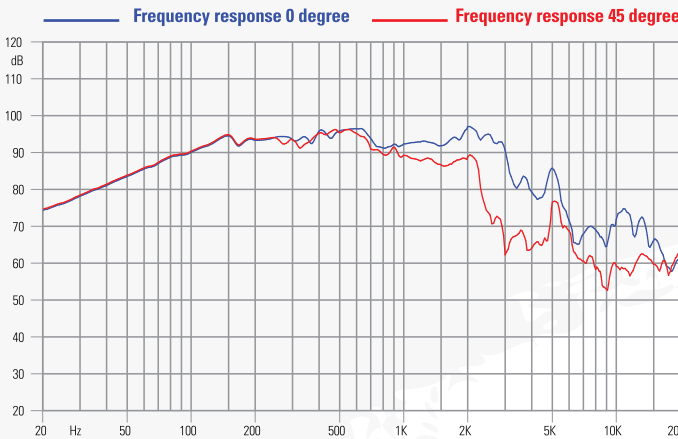
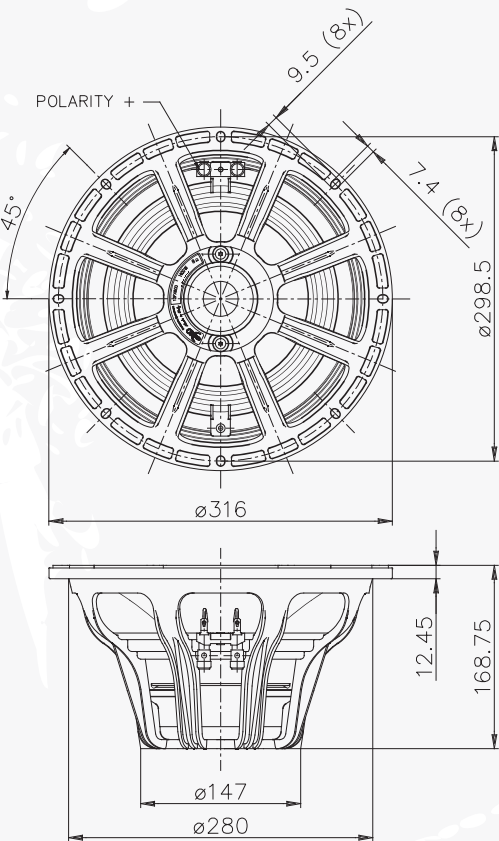
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
- (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
- (3) Maximum excursion before permanent damage
- (4) Maximum power is defined as 3dB greater than nominal power
- (5) Treated Polycotton

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	6.5 Ω
AES Power Handling (1)	700 W
Maximum Power Handling (4)	1400 W
Sensitivity (1W/1m)	97 dB
Frequency Range	50÷3150 Hz
Voice Coil Diameter	77 mm (3 in)
Winding Material	Cu
Former Material	Glass Fiber
Winding Depth	23.8 mm (0.94 in)
Magnetic Gap Depth	12 mm (0.47 in)
Flux Density	1.26 T
Magnet	Neodymium Ring
Basket Material	Aluminum
Demodulation	Aluminum Ring
Cone Surround (5)	Triple Roll
NET Air Volume filled by Loudspeaker	2.9 dm³ (0.102 ft³)
Spider Profile	1x variable height waves

THIELE & SMALL PARAMETERS

Fs	48 Hz
Re	5.3 Ω
Qes	0.25
Qms	6.88
Qts	0.24
Vas	44.4 dm³ (1.57 ft³)
Sd	538 cm² (83.39 in²)
Xmax (2)	9.90 mm
Xdamage (3)	24.1 mm
Mms	100 g
Bl	25.3 N/A
Le	1.34 mH
Mmd	85.9 g
Cms	0.11 mm/N
Rms	4.4 kg/s
η _o (Eta Zero)	1.91 %
EBP	192 Hz



12FH500

12" - 500 W - 97 dB

12FH520

12" - 600 W - 98 dB



NOMINAL SPECIFICATIONS

	12FH500	12FH520
Nominal Diameter	300 mm (12 in)	300 mm (12 in)
Overall Diameter	316 mm (12.44 in)	316 mm (12.44 in)
Bolt Circle Diameter	298.5 mm (11.75 in)	298.5 mm (11.75 in)
Baffle Cutout Diameter	284 mm (11.18 in)	284 mm (11.18 in)
Depth	155.75 mm (6.13 in)	155.75 mm (6.13 in)
Flange and gasket Thickness	12.45 mm (0.49 in)	12.45 mm (0.49 in)
Net Weight	3.9 kg (8.6 lb)	4.2 kg (9.3 lb)
Shipping Box	350 x 346 x 216 mm	350 x 346 x 216 mm
(Single Box)	(13.8 x 13.6 x 8.5 in)	(13.8 x 13.6 x 8.5 in)
Shipping Weight	5 kg (11.0 lb)	5 kg (11.0 lb)

- NOTES:
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
 - (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
 - (3) Maximum excursion before permanent damage
 - (4) Maximum power is defined as 3dB greater than nominal power
 - (5) Treated Polycotton
- PATENT IT2006/000327 (12FH500)

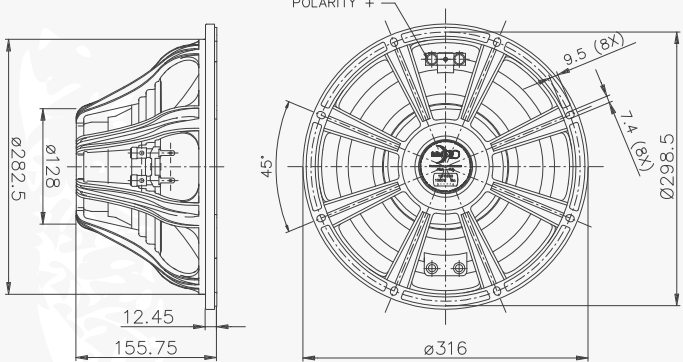
TECHNICAL PARAMETERS

	12FH500	12FH520
Nominal Impedance	8 Ω	8 Ω
Minimum Impedance	6.4 Ω	6.3 Ω
AES Power Handling (1)	500 W	600 W
Maximum Power Handling (4)	1000 W	1200 W
Sensitivity (1W/1m)	97 dB	98 dB
Frequency Range	45÷4000 Hz	50÷4000 Hz
Voice Coil Diameter	77 mm (3 in)	77 mm (3 in)
Winding Material	Al	Al
Former Material	Glass Fiber	Glass Fiber
Winding Depth	18.5 mm (0.73 in)	18.5 mm (0.73 in)
Magnetic Gap Depth	10.5 mm (0.41 in)	12 mm (0.47 in)
Flux Density	1.2 T	1.1 T
Magnet	Neodymium Slug	Neodymium Slug
Basket Material	Aluminum	Aluminum
Demodulation	No	Aluminum Ring
Cone Surround (5)	M-Roll	Triple Roll
NET Air Volume filled by Loudspeaker	2.3 dm³ (0.081 ft³)	2.4 dm³ (0.085 ft³)
Spider Profile	1x variable height waves	

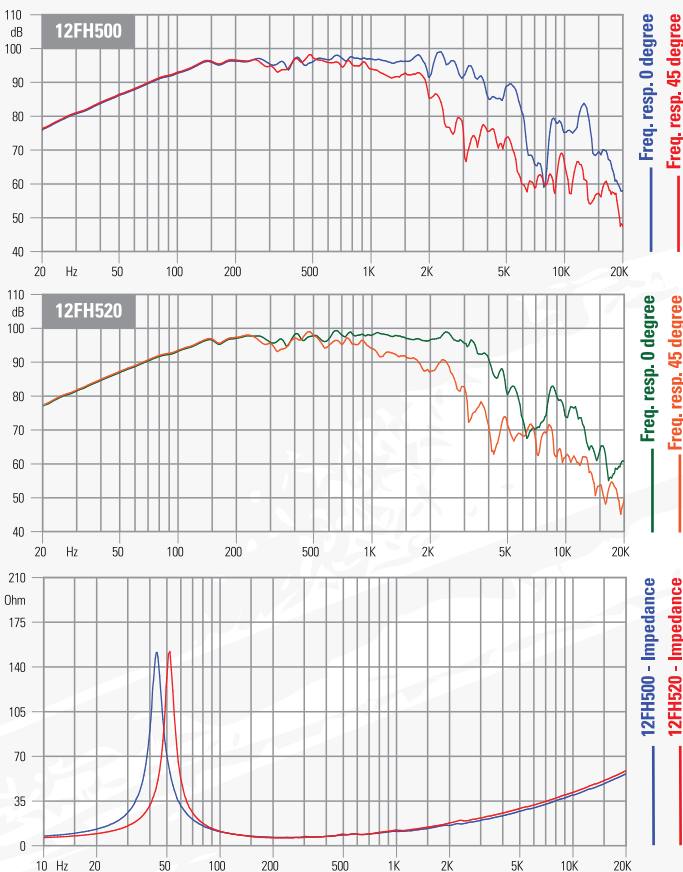
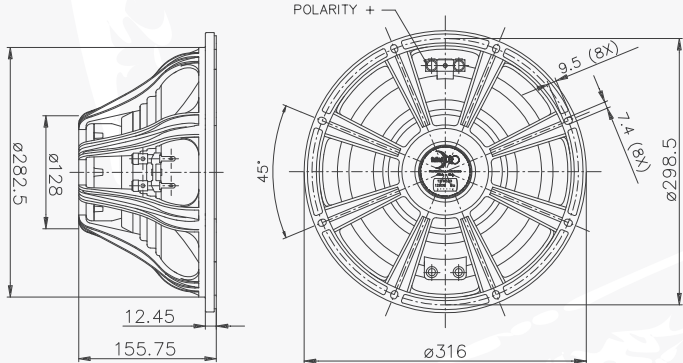
THIELE & SMALL PARAMETERS

	12FH500	12FH520
Fs	45 Hz	50 Hz
Re	5.1 Ω	5.1 Ω
Qes	0.26	0.30
Qms	6.9	11.1
Qts	0.25	0.29
Vas	87.3 dm³ (3.08 ft³)	73.7 dm³ (2.60 ft³)
Sd	529 cm² (82.00 in²)	540 cm² (83.70 in²)
Xmax (2)	7.50 mm	7.25 mm
Xdamage (3)	21.55 mm	19.5 mm
Mms	56.0 g	56.0 g
Bl	17.5 N/A	17.3 N/A
Le	0.83 mH	0.74 mH
Mmd	42.2 g	41.8 g
Cms	0.22 mm/N	0.18 mm/N
Rms	2.3 kg/s	1.6 kg/s
η _e (Eta Zero)	2.93 %	2.98 %
EBP	173 Hz	167 Hz

12FH500



12FH520



12FH510

12" - 500 W - 98 dB

12FH530

12" - 500 W - 98 dB



NOMINAL SPECIFICATIONS

	12FH510	12FH530
Nominal Diameter	300 mm (12 in)	300 mm (12 in)
Overall Diameter	316 mm (12.44 in)	316 mm (12.44 in)
Bolt Circle Diameter	298.5 mm (11.75 in)	298.5 mm (11.75 in)
Baffle Cutout Diameter	282 mm (11.10 in)	282 mm (11.10 in)
Depth	140 mm (5.51 in)	140 mm (5.51 in)
Flange and gasket Thickness	12 mm (0.47 in)	12 mm (0.47 in)
Net Weight	7.8 kg (17.2 lb)	7.9 kg (17.4 lb)
Shipping Box	350 x 346 x 190 mm	350 x 346 x 190 mm
(Single Box)	(13.8 x 13.6 x 7.5 in)	(13.8 x 13.6 x 7.5 in)
Shipping Weight	8.7 kg (19.2 lb)	8.7 kg (19.2 lb)

- NOTES:
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
- (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
- (3) Maximum excursion before permanent damage
- (4) Maximum power is defined as 3dB greater than nominal power
- (5) Treated Polycotton

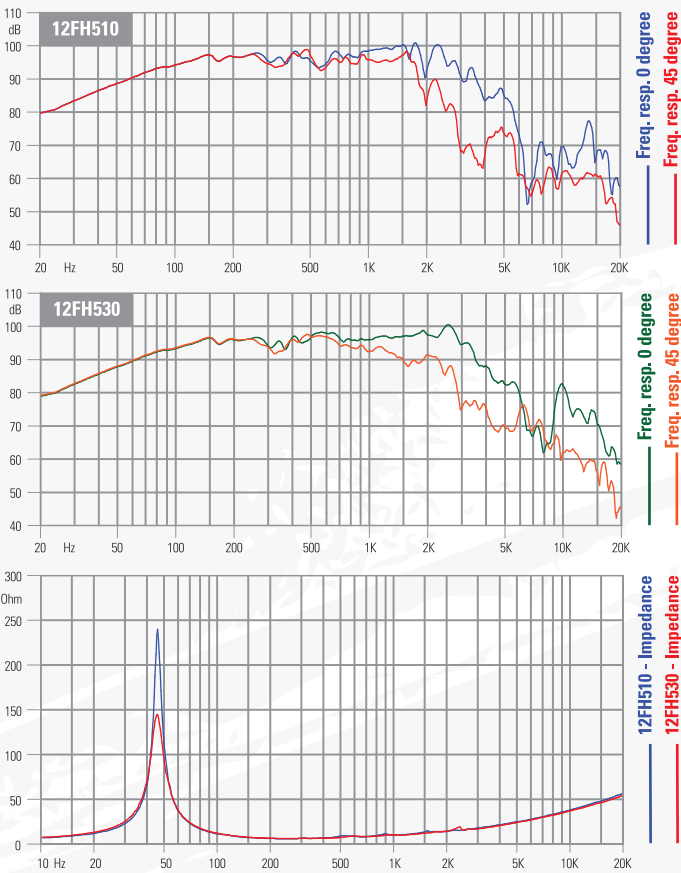
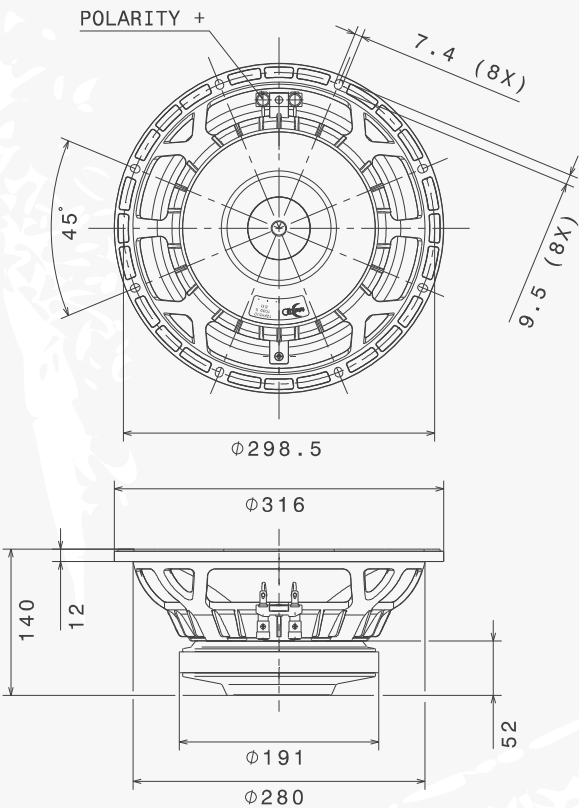
TECHNICAL PARAMETERS

	12FH510	12FH530
Nominal Impedance	8 Ω	8 Ω
Minimum Impedance	6.4 Ω	6.4 Ω
AES Power Handling (1)	500 W	500 W
Maximum Power Handling (4)	1000 W	1000 W
Sensitivity (1W/1m)	98 dB	98 dB
Frequency Range	45÷3150 Hz	45÷3150 Hz
Voice Coil Diameter	77 mm (3 in)	77 mm (3 in)
Winding Material	Al	Al
Former Material	Glass Fiber	Glass Fiber
Winding Depth	18.5 mm (0.73 in)	18.5 mm (0.73 in)
Magnetic Gap Depth	10.5 mm (0.41 in)	10.5 mm (0.41 in)
Flux Density	1.2 T	1.2 T
Magnet	Ferrite Ring	Ferrite Ring
Basket Material	Aluminum	Aluminum
Demodulation	No	Aluminum Ring
Cone Surround (5)	M-Roll	M-Roll
NET Air Volume filled by Loudspeaker	2.9 dm³ (0.102 ft³)	2.9 dm³ (0.102 ft³)
Spider Profile	1x variable height waves	

THIELE & SMALL PARAMETERS

	12FH510	12FH530
Fs	45 Hz	45 Hz
Re	5.1 Ω	5.1 Ω
Qes	0.25	0.27
Qms	10.9	6.4
Qts	0.24	0.26
Vas	81.3 dm³ (2.87 ft³)	74.1 dm³ (2.62 ft³)
Sd	533 cm² (82.62 in²)	533 cm² (82.62 in²)
Xmax (2)	7.50 mm	7.50 mm
Xdamage (3)	21.5 mm	21.5 mm
Mms	61.0 g	67.0 g
Bl	18.9 N/A	18.9 N/A
Le	0.9 mH	0.8 mH
Mmd	47.1 g	53.1 g
Cms	0.21 mm/N	0.19 mm/N
Rms	1.6 kg/s	3.0 kg/s
ηe (Eta Zero)	2.92 %	2.42 %
EBP	180 Hz	167 Hz

12FH510 / 12FH530



12RS550

12" - 500 W - 93 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	300 mm (12 in)
Overall Diameter	316 mm (12.44 in)
Bolt Circle Diameter	298.5 mm (11.75 in)
Baffle Cutout Diameter	282 mm (11.10 in)
Depth	145.1 mm (5.71 in)
Flange and gasket Thickness	17.1 mm (0.67 in)
Net Weight	8.1 kg (17.9 lb)
Shipping Box	350 x 346 x 216 mm
(Single Carton Box)	(13.8 x 13.6 x 8.5 in)
Shipping Weight	8.8 kg (19.4 lb)

NOTES:

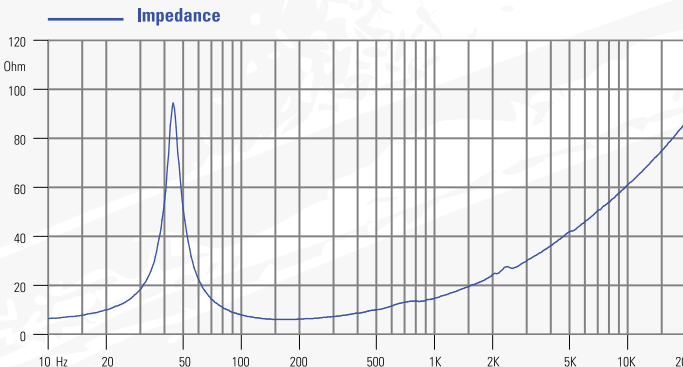
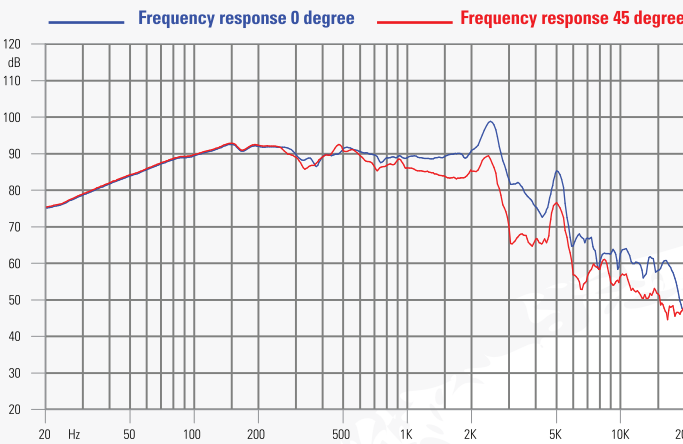
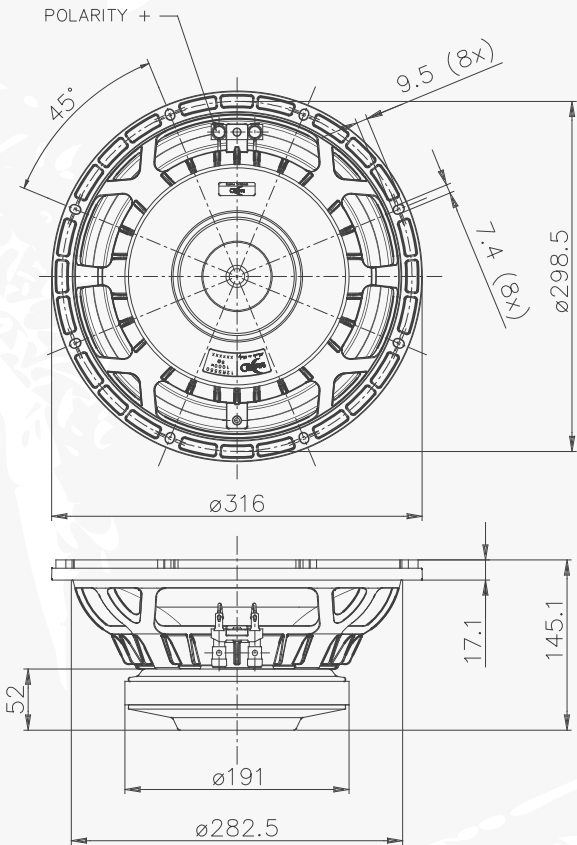
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
- (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth) / 2] + (magnetic\ gap\ depth / 3)$
- (3) Maximum excursion before permanent damage
- (4) Maximum power is defined as 3dB greater than nominal power
- (5) NBR (Rubber)

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	6.3 Ω
AES Power Handling (1)	500 W
Maximum Power Handling (4)	1000 W
Sensitivity (1W/1m)	93 dB
Frequency Range	45÷2500 Hz
Voice Coil Diameter	77 mm (3 in)
Winding Material	Cu
Former Material	Glass Fiber
Winding Depth	22 mm (0.87 in)
Magnetic Gap Depth	10.5 mm (0.41 in)
Flux Density	1.2 T
Magnet	Ferrite Ring
Basket Material	Aluminum
Demodulation	No
Cone Surround (5)	Half Roll
NET Air Volume filled by Loudspeaker	2.9 dm³ (0.102 ft³)
Spider Profile	1x variable height waves

THIELE & SMALL PARAMETERS

Fs	42 Hz
Re	5.1 Ω
Qes	0.39
Qms	6.9
Qts	0.37
Vas	45.4 dm³ (1.60 ft³)
Sd	528 cm² (81.84 in²)
Xmax (2)	9.25 mm
Xdamage (3)	20 mm
Mms	123 g
Bl	20.5 N/A
Le	1.5 mH
Mmd	109.3 g
Cms	0.12 mm/N
Rms	4.77 kg/s
η _o (Eta Zero)	0.83 %
EBP	108 Hz



12RS430

12" - 400 W - 93 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	300 mm (12 in)
Overall Diameter	316 mm (12.44 in)
Bolt Circle Diameter	298.5 mm (11.75 in)
Baffle Cutout Diameter	282 mm (11.10 in)
Depth	157 mm (6.18 in)
Flange and gasket Thickness	19.5 mm (0.77 in)
Net Weight	7.0 kg (15.4 lb)
Shipping Box	350 x 346 x 216 mm
(Single Carton Box)	(13.7 x 13.6 x 8.5 in)
Shipping Weight	7.8 kg (17.2lb)

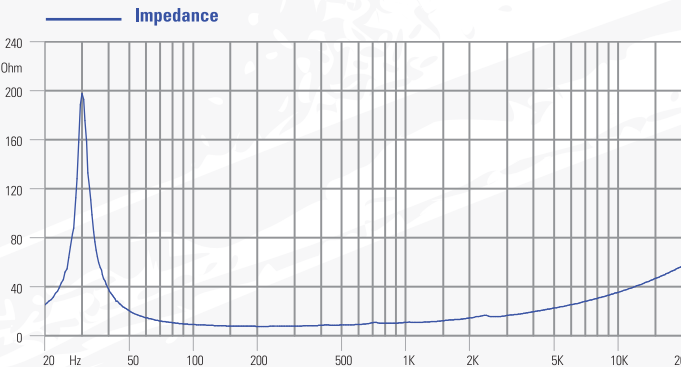
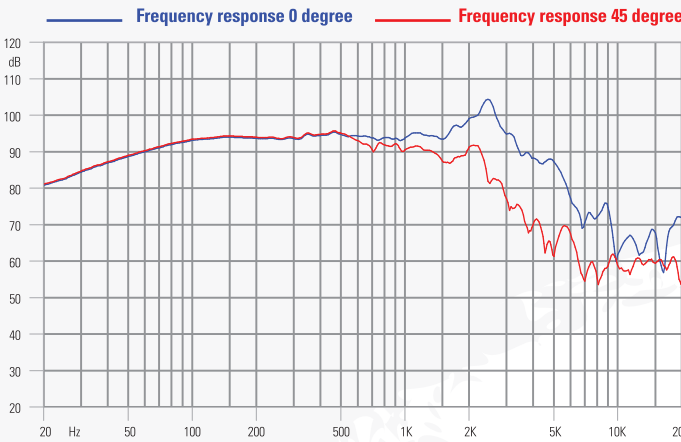
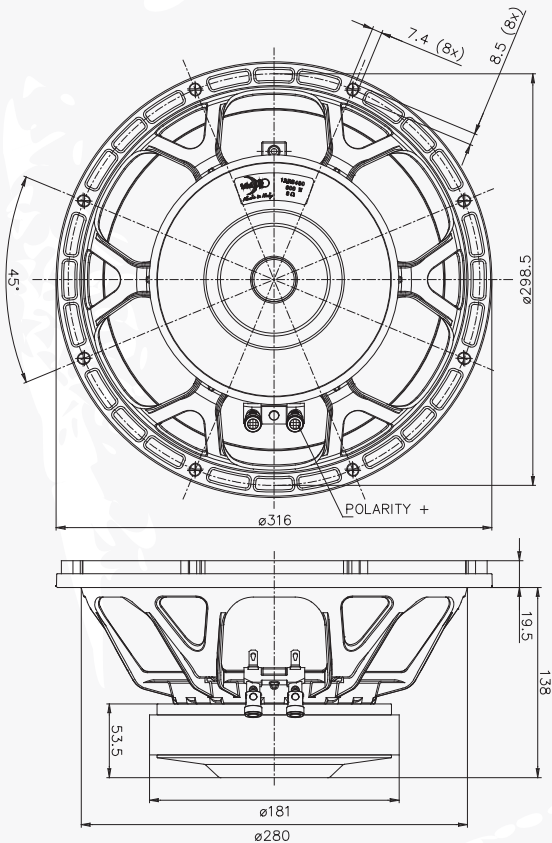
- NOTES:
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
 - (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
 - (3) Maximum excursion before permanent damage
 - (4) Maximum power is defined as 3dB greater than nominal power
 - (5) EPDM (Rubber)

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	8 Ω
AES Power Handling (1)	400 W
Maximum Power Handling (4)	800 W
Sensitivity (1W/1m)	93 dB
Frequency Range	30÷2500 Hz
Voice Coil Diameter	65 mm (2.56 in)
Winding Material	Al
Former Material	Glass Fiber
Winding Depth	29.8 mm (1.17 in)
Magnetic Gap Depth	8 mm (0.31 in)
Flux Density	1.50 T
Magnet	Ferrite Ring
Basket Material	Aluminum
Demodulation	Aluminum Ring
Cone Surround (5)	Half Roll
NET Air Volume filled by Loudspeaker	2.85 dm³ (0.101 ft³)
Spider Profile	1x constant height waves

THIELE & SMALL PARAMETERS

Fs	30 Hz
Re	6.8 Ω
Qes	0.36
Qms	10.0
Qts	0.35
Vas	131.2 dm³ (4.63 ft³)
Sd	552 cm² (85.56 in²)
Xmax (2)	13.57 mm
Xdamage (3)	21.5 mm
Mms	91.3 g
Bl	18 N/A
Le	0.78 mH
Mmd	76.6 g
Cms	0.31 mm/N
Rms	1.7 kg/s
η₀ (Eta Zero)	0.95 %
EBP	83 Hz



12PR300

12" - 300 W - 99 dB

12PR320

12" - 300 W - 97 dB



NOMINAL SPECIFICATIONS

	12PR300	12PR320
Nominal Diameter	300 mm (12 in)	300 mm (12 in)
Overall Diameter	315.2 mm (12.4 in)	316 mm (12.44 in)
Bolt Circle Diameter	298.5 mm (11.75 in)	298.5 mm (11.75 in)
Baffle Cutout Diameter	283 mm (11.14 in)	282 mm (11.10 in)
Depth	140.6 mm (5.54 in)	135 mm (5.31 in)
Flange and gasket Thickness	12.1 mm (0.48 in)	12 mm (0.47 in)
Net Weight	2.5 kg (5.5 lb)	2.75 kg (6.1 lb)
Shipping Box	350 x 346 x 216 mm	350 x 346 x 190 mm
(Single Box)	(13.8 x 13.6 x 8.5 in)	(13.8 x 13.6 x 7.5 in)
Shipping Weight	3.25 kg (7.2 lb)	3.4 kg (7.5 lb)

NOTES:

(1) 2 Hours Test According to AES 2-1984 Rev, 2003

(2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$

(3) Maximum excursion before permanent damage

(4) Maximum power is defined as 3dB greater than nominal power

(5) Treated Polycotton

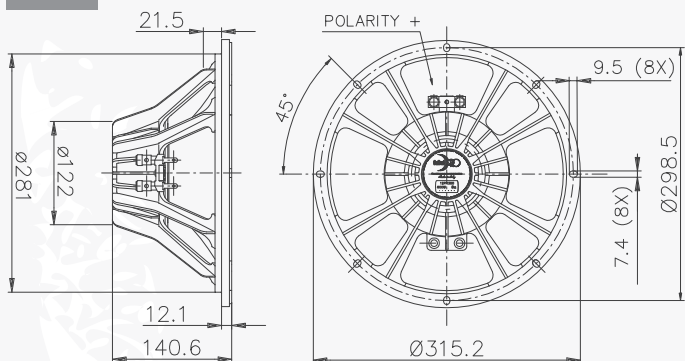
TECHNICAL PARAMETERS

	12PR300	12PR320
Nominal Impedance	8 Ω	8 Ω
Minimum Impedance	6.2 Ω	6.4 Ω
AES Power Handling (1)	300 W	300 W
Maximum Power Handling (4)	600 W	600 W
Sensitivity (1W/1m)	99 dB	97 dB
Frequency Range	50÷5000 Hz	45÷5000 Hz
Voice Coil Diameter	65 mm (2.56 in)	65 mm (2.56 in)
Winding Material	Al	Al
Former Material	Glass Fiber	Glass Fiber
Winding Depth	12.5 mm (0.49 in)	17.4 mm (0.69 in)
Magnetic Gap Depth	8 mm (0.31 in)	8 mm (0.31 in)
Flux Density	1.25 T	1.2 T
Magnet	Neodymium Slug	Neodymium Slug
Basket Material	Aluminum	Aluminum
Demodulation	No	No
Cone Surround (5)	M-Roll	Triple Roll
NET Air Volume filled by Loudspeaker	1.9 dm ³ (0.067 ft ³)	1.9 dm ³ (0.067 ft ³)
Spider Profile	1x variable height waves	

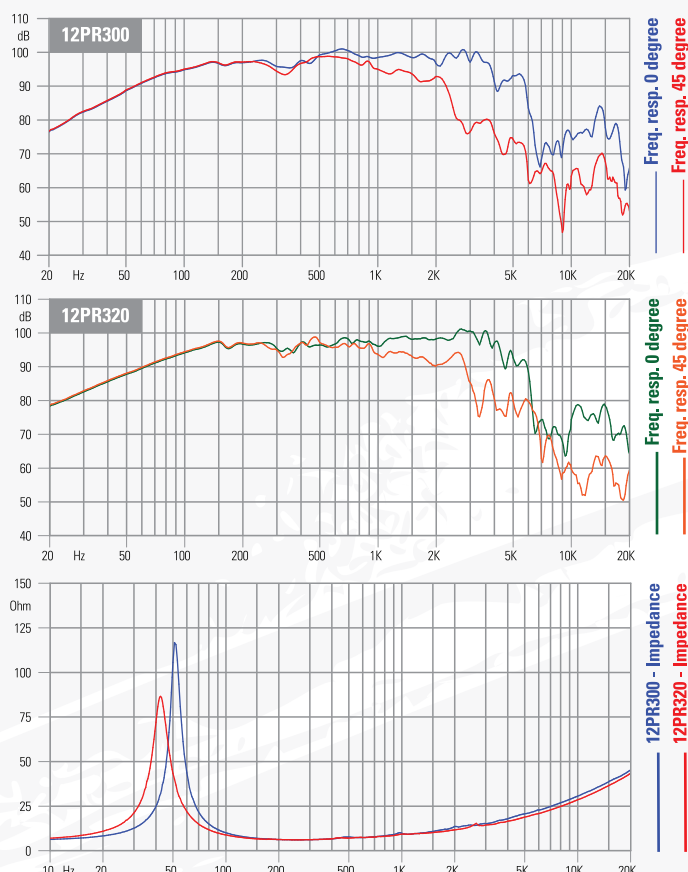
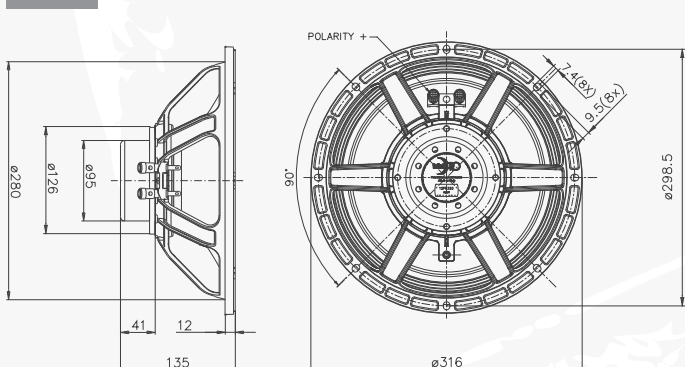
THIELE & SMALL PARAMETERS

	12PR300	12PR320
Fs	50 Hz	42 Hz
Re	5.4 Ω	5.3 Ω
Qes	0.37	0.39
Qms	9.9	7.8
Qts	0.36	0.37
Vas	92.6 dm ³ (3.27 ft ³)	113.3 dm ³ (4.00 ft ³)
Sd	533 cm ² (82.62 in ²)	539 cm ² (83.55 in ²)
Xmax (2)	4.92 mm	7.37 mm
Xdamage (3)	14 mm	17 mm
Mms	43.4 g	51.4 g
Bl	14.1 N/A	13.5 N/A
Le	0.42 mH	0.67 mH
Mmd	29.5 g	37.3 g
Cms	0.23 mm/N	0.28 mm/N
Rms	1.4 kg/s	1.7 kg/s
η_e (Eta Zero)	3.03 %	2.06 %
EBP	135 Hz	108 Hz

12PR300



12PR320



12PR310

12" - 300 W - 99 dB

12PR330

12" - 300 W - 98 dB



NOMINAL SPECIFICATIONS

	12PR310	12PR330
Nominal Diameter	300 mm (12 in)	300 mm (12 in)
Overall Diameter	316 mm (12.44 in)	316 mm (12.44 in)
Bolt Circle Diameter	298.5 mm (11.75 in)	298.5 mm (11.75 in)
Baffle Cutout Diameter	282 mm (11.10 in)	282 mm (11.10 in)
Depth	135 mm (5.31 in)	135 mm (5.31 in)
Flange and gasket Thickness	12 mm (0.47 in)	12 mm (0.47 in)
Net Weight	4.3 kg (9.5 lb)	4.3 kg (9.5 lb)
Shipping Box	350 x 346 x 190 mm	350 x 346 x 190 mm
(Single Box)	(13.8 x 13.6 x 7.5 in)	(13.8 x 13.6 x 7.5 in)
Shipping Weight	5 kg (11.0 lb)	5 kg (11.0 lb)

- NOTES:
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
 - (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
 - (3) Maximum excursion before permanent damage
 - (4) Maximum power is defined as 3dB greater than nominal power
 - (5) Treated Polycotton

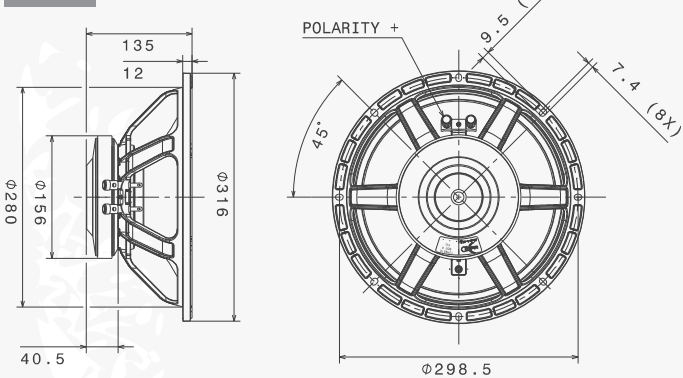
TECHNICAL PARAMETERS

	12PR310	12PR330
Nominal Impedance	8 Ω	8 Ω
Minimum Impedance	6.7 Ω	6.6 Ω
AES Power Handling (1)	300 W	300 W
Maximum Power Handling (4)	600 W	600 W
Sensitivity (1W/1m)	99 dB	98 dB
Frequency Range	50÷4000 Hz	50÷4000 Hz
Voice Coil Diameter	65 mm (2.56 in)	65 mm (2.56 in)
Winding Material	Al	Al
Former Material	Glass Fiber	Glass Fiber
Winding Depth	12.5 mm (0.49 in)	17.4 mm (0.69 in)
Magnetic Gap Depth	8 mm (0.31 in)	8 mm (0.31 in)
Flux Density	1.2 T	1.2 T
Magnet	Ferrite Ring	Ferrite Ring
Basket Material	Aluminum	Aluminum
Demodulation	No	No
Cone Surround (5)	M-Roll	M-Roll
NET Air Volume filled by Loudspeaker	1.9 dm³ (0.067 ft³)	1.9 dm³ (0.067 ft³)
Spider Profile	1x variable height waves	

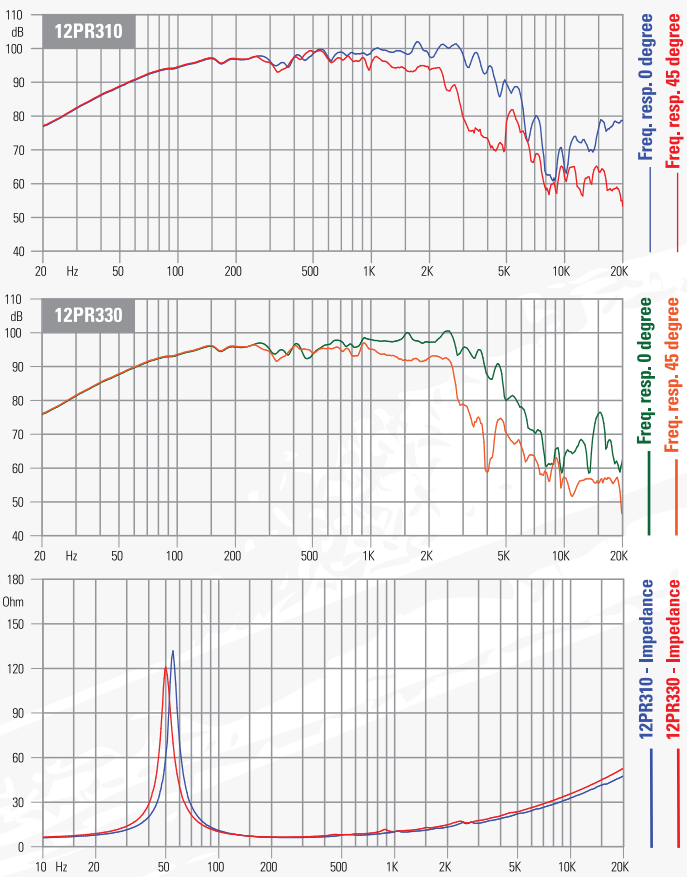
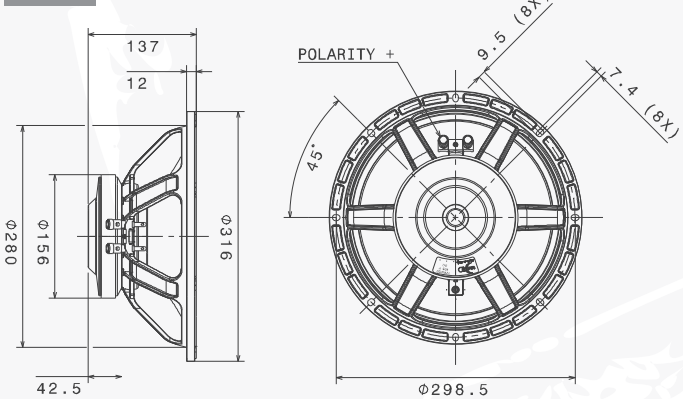
THIELE & SMALL PARAMETERS

	12PR310	12PR330
Fs	54 Hz	50 Hz
Re	5.4 Ω	5.3 Ω
Qes	0.41	0.42
Qms	11.6	10.9
Qts	0.40	0.4
Vas	73.5 dm³ (2.59 ft³)	79.1 dm³ (2.79 ft³)
Sd	533 cm² (82.62 in²)	533 cm² (82.62 in²)
Xmax (2)	4.92 mm	7.37 mm
Xdamage (3)	15.25 mm	15.25 mm
Mms	46.9 g	50.8 g
Bl	14.4 N/A	14.2 N/A
Le	0.61 mH	0.76 mH
Mmd	33.0 g	36.9 g
Cms	0.19 mm/N	0.20 mm/N
Rms	1.4 kg/s	1.5 kg/s
ηe (Eta Zero)	2.71 %	2.29%
EBP	132 Hz	119 Hz

12PR310



12PR330



12FE330

12" - 250 W - 94 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	300 mm (12 in)
Overall Diameter	311 mm (12.24 in)
Bolt Circle Diameter	294.5 mm (11.59 in)
Baffle Cutout Diameter	284 mm (11.18 in)
Depth	136 mm (5.35 in)
Flange and gasket Thickness	11 mm (0.43 in)
Net Weight	3.6 kg (7.9 lb)
Shipping Box	350 x 346 x 190 mm
(Single Carton Box)	(13.8 x 13.6 x 7.48 in)
Shipping Weight	4.4 kg (9.7 lb)

NOTES:

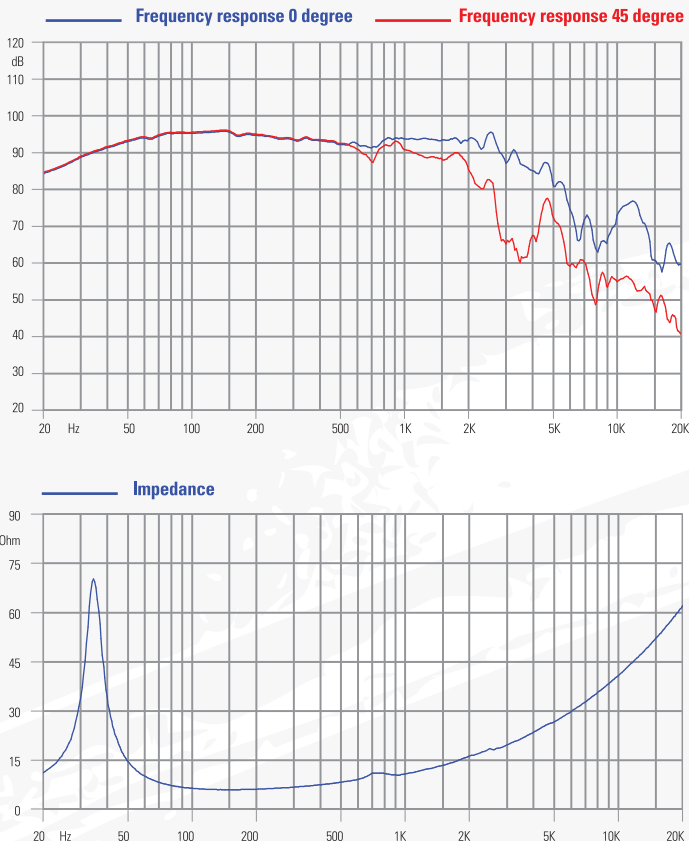
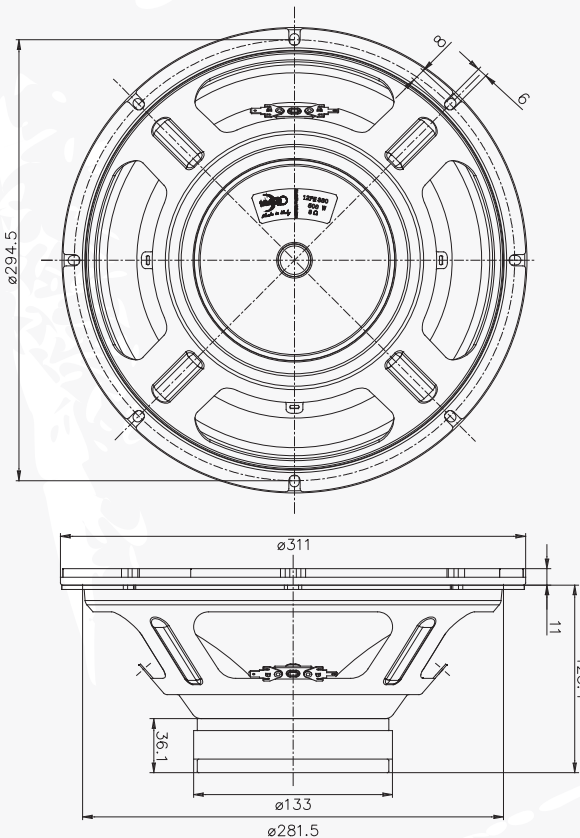
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
- (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
- (3) Maximum excursion before permanent damage
- (4) Maximum power is defined as 3dB greater than nominal power
- (5) NBR (Rubber)

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	6.1 Ω
AES Power Handling (1)	250 W
Maximum Power Handling (4)	500 W
Sensitivity (1W/1m)	94 dB
Frequency Range	30÷3000 Hz
Voice Coil Diameter	52 mm (2.05 in)
Winding Material	Cu
Former Material	Glass Fiber
Winding Depth	19.3 mm (0.76 in)
Magnetic Gap Depth	8 mm (0.31 in)
Flux Density	1.1 T
Magnet	Ferrite Ring
Basket Material	Steel
Demodulation	No
Cone Surround (5)	Half Roll
NET Air Volume filled by Loudspeaker	2.1 dm³ (0.074 ft³)
Spider Profile	1x constant height waves

THIELE & SMALL PARAMETERS

Fs	33 Hz
Re	5.3 Ω
Qes	0.48
Qms	7.0
Qts	0.45
Vas	146.7 dm³ (5.18 ft³)
Sd	579 cm² (89.75 in²)
Xmax (2)	8.32 mm
Xdamage (3)	13.6 mm
Mms	74.2 g
Bl	13 N/A
Le	1.1 mH
Mmd	58.5 g
Cms	0.31 mm/N
Rms	2.2 kg/s
η₀ (Eta Zero)	1.06 %
EBP	68 Hz



12FE300

12" - 250 W - 97 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	300 mm (12 in)
Overall Diameter	311 mm (12.24 in)
Bolt Circle Diameter	294 mm (11.57 in)
Baffle Cutout Diameter	284 mm (11.18 in)
Depth	133 mm (5.24 in)
Flange and gasket Thickness	8 mm (0.31 in)
Net Weight	3.5 kg (7.7 lb)
Shipping Box	350 x 346 x 190 mm
(Single Carton Box)	(13.8 x 13.6 x 7.48 in)
Shipping Weight	4.3 kg (9.5 lb)

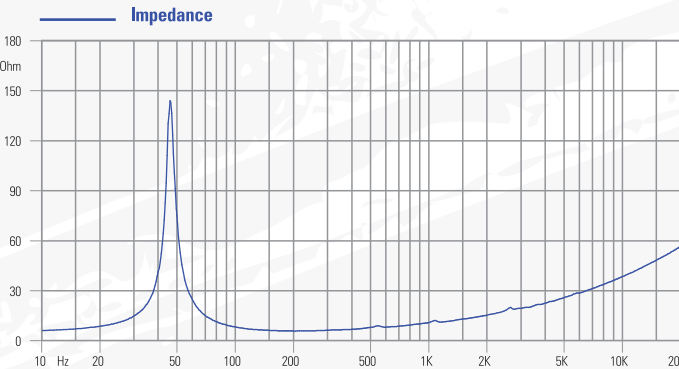
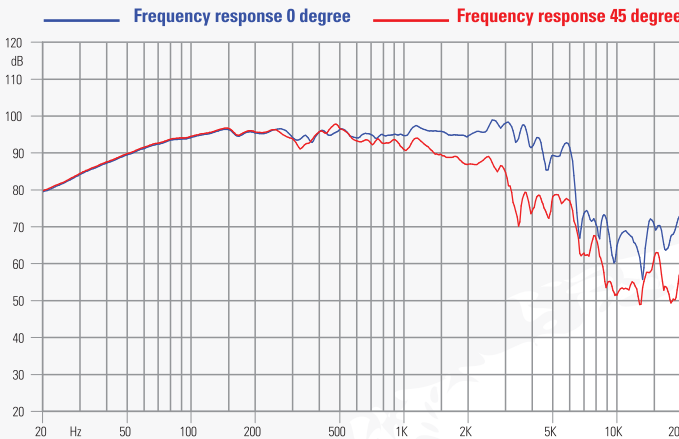
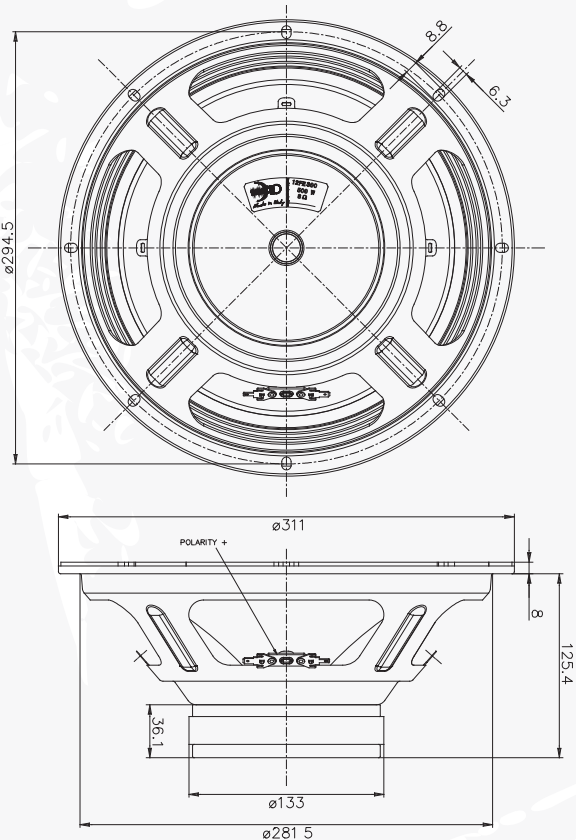
- NOTES:
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
 - (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth) / 2] + (magnetic\ gap\ depth / 3)$
 - (3) Maximum excursion before permanent damage
 - (4) Maximum power is defined as 3dB greater than nominal power
 - (5) Treated Polycotton

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	6.1 Ω
AES Power Handling (1)	250 W
Maximum Power Handling (4)	500 W
Sensitivity (1W/1m)	97 dB
Frequency Range	50÷4000 Hz
Voice Coil Diameter	52 mm (2.05 in)
Winding Material	Cu
Former Material	Glass Fiber
Winding Depth	12.8 mm (0.50 in)
Magnetic Gap Depth	8 mm (0.31 in)
Flux Density	1.1 T
Magnet	Ferrite Ring
Basket Material	Steel
Demodulation	No
Cone Surround (5)	Triple Roll
NET Air Volume filled by Loudspeaker	2 dm³ (0.071 ft³)
Spider Profile	1x variable height waves

THIELE & SMALL PARAMETERS

Fs	47 Hz
Re	5.1 Ω
Qes	0.53
Qms	15.5
Qts	0.51
Vas	83.7 dm³ (2.96 ft³)
Sd	543 cm² (84.17 in²)
Xmax (2)	5.07 mm
Xdamage (3)	16.7 mm
Mms	56.4 g
Bl	12.5 N/A
Le	0.8 mH
Mmd	42.1 g
Cms	0.20 mm/N
Rms	1.1 kg/s
η _o (Eta Zero)	1.55 %
EBP	89 Hz



12FE400

12" - 200 W - 97 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	300 mm (12 in)
Overall Diameter	311 mm (12.24 in)
Bolt Circle Diameter	294.5 mm (11.59 in)
Baffle Cutout Diameter	284 mm (11.18 in)
Depth	131 mm (5.16 in)
Flange and gasket Thickness	7.5 mm (0.30 in)
Net Weight	3.1 kg (6.8 lb)
Shipping Box	350 x 346 x 190 mm
(Single Carton Box)	(13.8 x 13.6 x 7.48 in)
Shipping Weight	3.9 kg (8.6 lb)

NOTES:

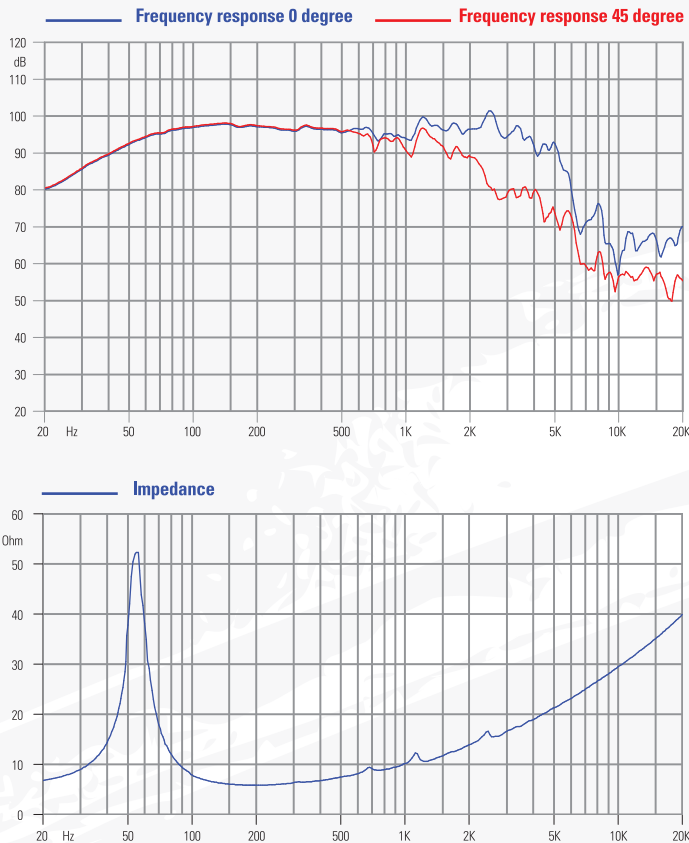
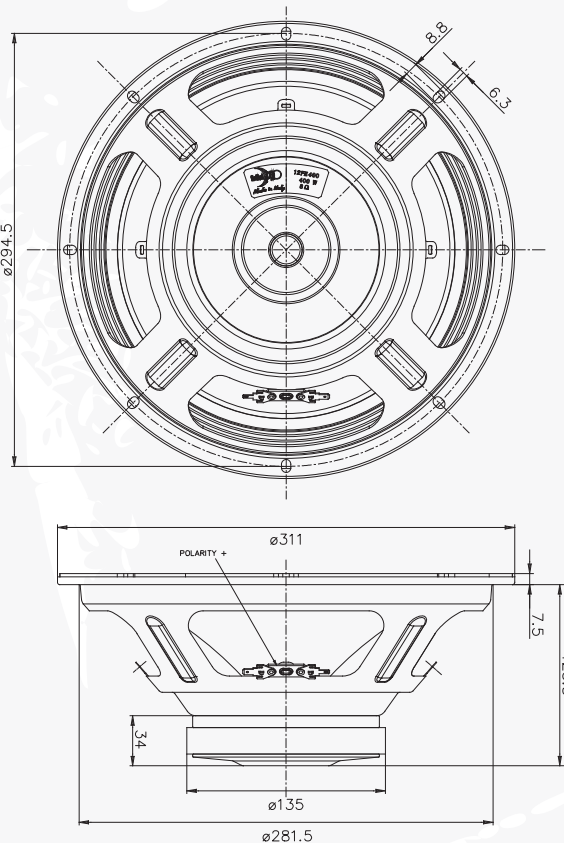
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
- (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth) / 2] + (magnetic\ gap\ depth / 3)$
- (3) Maximum excursion before permanent damage
- (4) Maximum power is defined as 3dB greater than nominal power
- (5) Treated Polycotton

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	6 Ω
AES Power Handling (1)	200 W
Maximum Power Handling (4)	400 W
Sensitivity (1W/1m)	97 dB
Frequency Range	55÷4000 Hz
Voice Coil Diameter	44 mm (1.73 in)
Winding Material	Cu
Former Material	Al
Winding Depth	13.5 mm (0.53 in)
Magnetic Gap Depth	8 mm (0.31 in)
Flux Density	1.10 T
Magnet	Ferrite Ring
Basket Material	Steel
Demodulation	No
Cone Surround (5)	Triple Roll
NET Air Volume filled by Loudspeaker	1.9 dm³ (0.067 ft³)
Spider Profile	1x constant height waves

THIELE & SMALL PARAMETERS

Fs	55 Hz
Re	5 Ω
Qes	0.63
Qms	6.6
Qts	0.57
Vas	73.6 dm³ (2.60 ft³)
Sd	549 cm² (85.10 in²)
Xmax (2)	5.42 mm
Xdamage (3)	14.9 mm
Mms	47.9 g
Bl	11.5 N/A
Le	0.75 mH
Mmd	33.4 g
Cms	0.17 mm/N
Rms	2.5 kg/s
η₀ (Eta Zero)	1.90 %
EBP	88 Hz



10HP1020

10" - 700 W - 96 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	250 mm (10 in)
Overall Diameter	261 mm (10.28 in)
Bolt Circle Diameter	246 mm (9.69 in)
Baffle Cutout Diameter	232 mm (9.13 in)
Depth	141.3 mm (5.56 in)
Flange and gasket Thickness	12.5 mm (0.49 in)
Net Weight	5.2 kg (11.5 lb)
Shipping Box	294 x 290 x 203 mm
(Single Carton Box)	(11.6 x 11.4 x 8.0 in)
Shipping Weight	5.8 kg (12.8 lb)

NOTES:

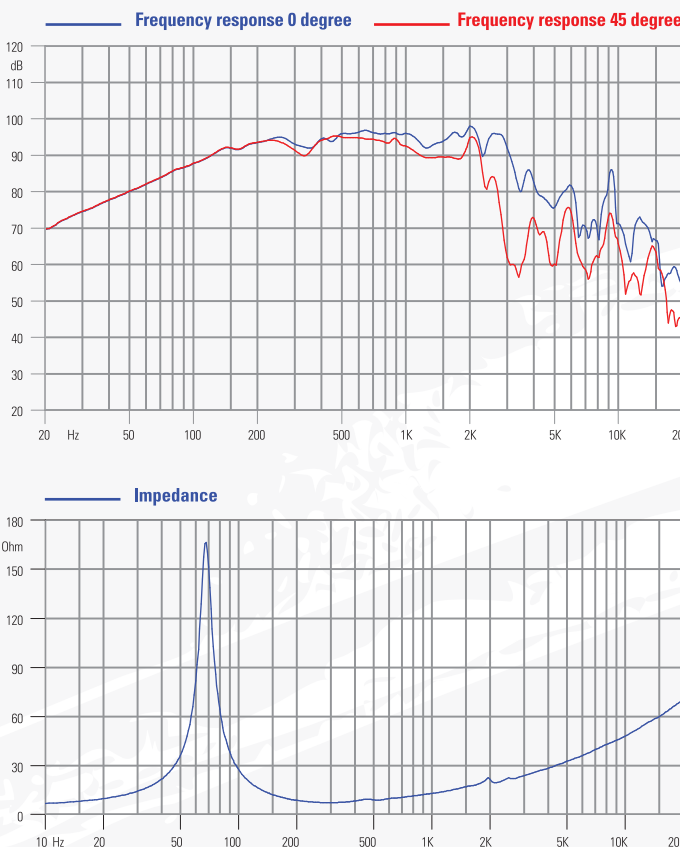
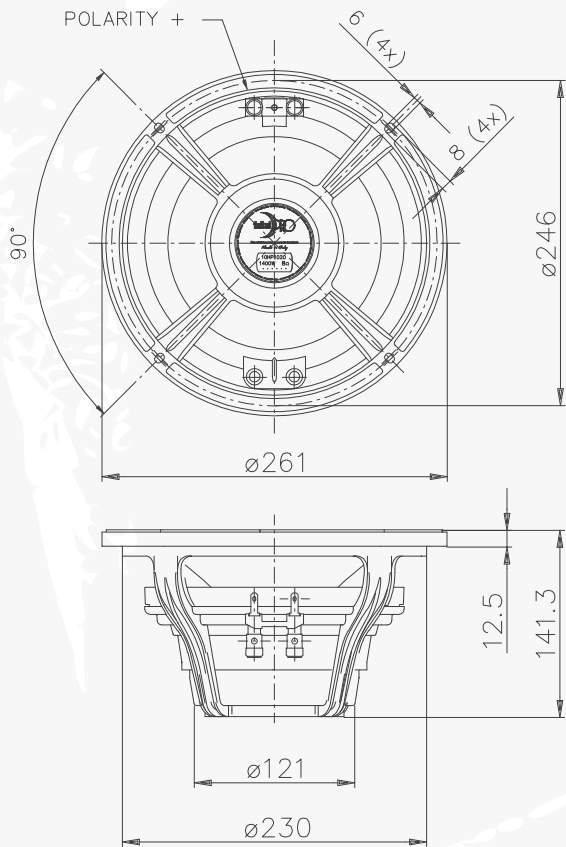
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
- (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
- (3) Maximum excursion before permanent damage
- (4) Maximum power is defined as 3dB greater than nominal power
- (5) Treated Polycotton
PATENT IT2006/000327

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	7.3 Ω
AES Power Handling (1)	700 W
Maximum Power Handling (4)	1400 W
Sensitivity (1W/1m)	96 dB
Frequency Range	60÷2500 Hz
Voice Coil Diameter	100 mm (4 in)
Winding Material	Al
Former Material	Glass Fiber
Winding Depth	22 mm (0.87 in)
Magnetic Gap Depth	12 mm (0.47 in)
Flux Density	1.3 T
Magnet	Neodymium Slug
Basket Material	Aluminum
Demodulation	No
Cone Surround (5)	M-Roll
NET Air Volume filled by Loudspeaker	2.2 dm ³ (0.078 ft ³)
Spider Profile	2x non-adjacent symmetrical constant height waves

THIELE & SMALL PARAMETERS

Fs	60 Hz
Re	5.5 Ω
Qes	0.25
Qms	6.5
Qts	0.24
Vas	16.1 dm ³ (0.57 ft ³)
Sd	345 cm ² (53.48 in ²)
Xmax (2)	9.00 mm
Xdamage (3)	18.2 mm
Mms	72.5 g
Bl	24.5 N/A
Le	0.85 mH
Mmd	65.3 g
Cms	0.10 mm/N
Rms	4.2 kg/s
η_o (Eta Zero)	1.35 %
EBP	240 Hz



10FH500

10" - 500 W - 96 dB

10FH520

10" - 600 W - 97 dB



NOMINAL SPECIFICATIONS

	10FH500	10FH520
Nominal Diameter	250 mm (10 in)	250 mm (10 in)
Overall Diameter	261 mm (10.28 in)	261 mm (10.28 in)
Bolt Circle Diameter	246 mm (9.69 in)	246 mm (9.69 in)
Baffle Cutout Diameter	232 mm (9.13 in)	232 mm (9.13 in)
Depth	141.3 mm (5.56 in)	141.3 mm (5.56 in)
Flange and gasket Thickness	12.5 mm (0.49 in)	12.5 mm (0.49 in)
Net Weight	3.4 kg (7.5 lb)	3.7 kg (8.2 lb)
Shipping Box	294 x 290 x 203 mm	294 x 290 x 203 mm
(Single Box)	(11.6 x 11.4 x 8.0 in)	(11.6 x 11.4 x 8.0 in)
Shipping Weight	4 kg (8.8 lb)	4.3 kg (9.5 lb)

NOTES:

(1) 2 Hours Test According to AES 2-1984 Rev. 2003

(2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$

(3) Maximum excursion before permanent damage

(4) Maximum power is defined as 3dB greater than nominal power

(5) Treated Polycotton

PATENT IT2006/000327 (10FH500)

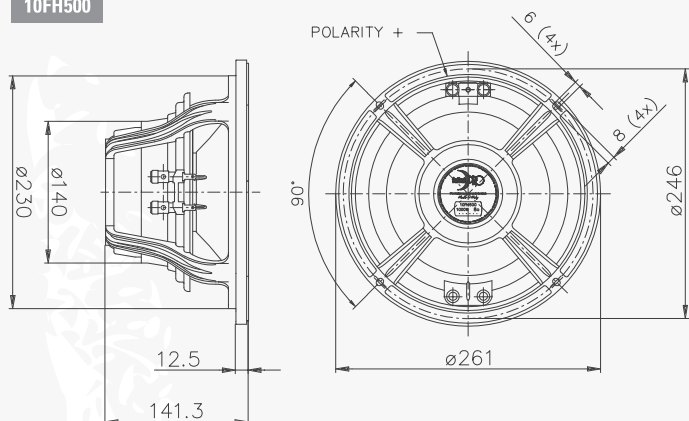
TECHNICAL PARAMETERS

	10FH500	10FH520
Nominal Impedance	8 Ω	8 Ω
Minimum Impedance	6.4 Ω	6 Ω
AES Power Handling (1)	500 W	600 W
Maximum Power Handling (4)	1000 W	1200 W
Sensitivity (1W/1m)	96 dB	97 dB
Frequency Range	60÷4000 Hz	60÷4000 Hz
Voice Coil Diameter	77 mm (3 in)	77 mm (3 in)
Winding Material	Al	Al
Former Material	Glass Fiber	Glass Fiber
Winding Depth	18.5 mm (0.73 in)	18.5 mm (0.73 in)
Magnetic Gap Depth	10.5 mm (0.41 in)	12 mm (0.47 in)
Flux Density	1.2 T	1.1 T
Magnet	Neodymium Slug	Neodymium Slug
Basket Material	Aluminum	Aluminum
Demodulation	No	Aluminum Ring
Cone Surround (5)	Triple Roll	Triple Roll
NET Air Volume filled by Loudspeaker	1.6 dm ³ (0.057 ft ³)	1.7 dm ³ (0.060 ft ³)
Spider Profile	1x constant height waves	1x variable height waves

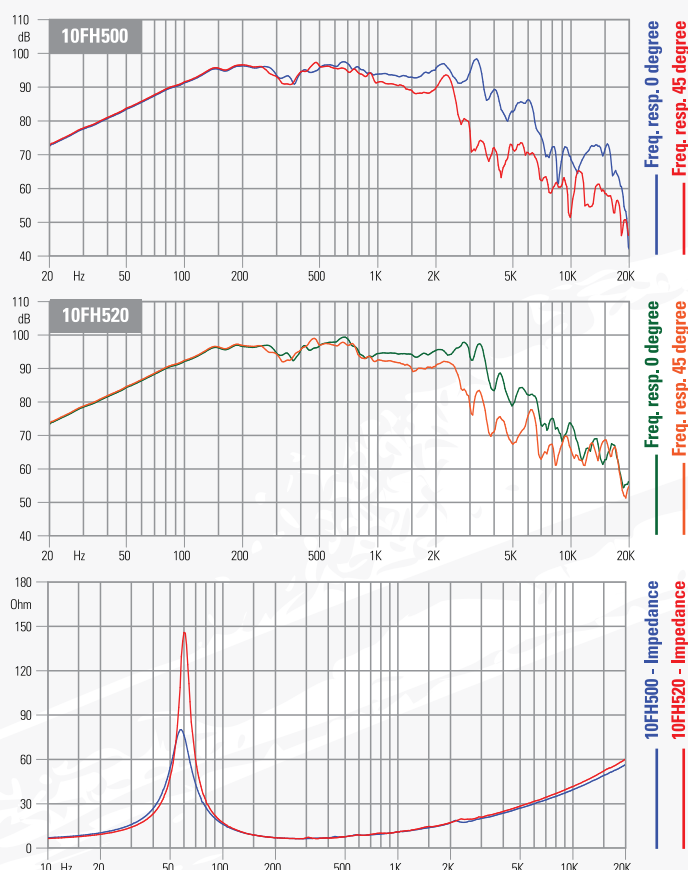
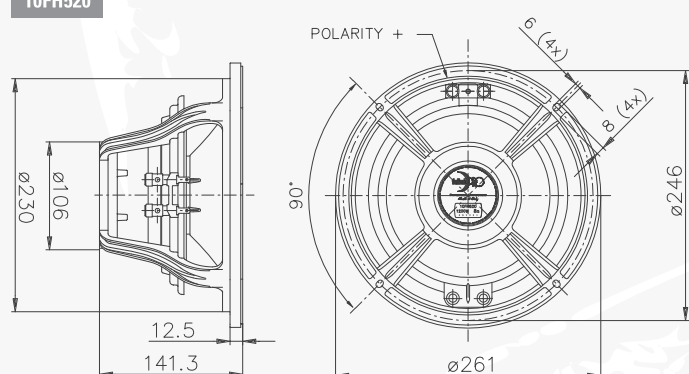
THIELE & SMALL PARAMETERS

	10FH500	10FH520
Fs	60 Hz	60 Hz
Re	5.1 Ω	5.1 Ω
Qes	0.28	0.30
Qms	3.3	11.1
Qts	0.26	0.29
Vas	25.8 dm ³ (0.91 ft ³)	23.5 dm ³ (0.83 ft ³)
Sd	351 cm ² (54.41 in ²)	347 cm ² (53.79 in ²)
Xmax (2)	7.50 mm	7.25 mm
Xdamage (3)	12.5 mm	19.5 mm
Mms	47.0 g	50.3 g
Bl	17.9 N/A	18 N/A
Le	0.85 mH	0.9 mH
Mmd	39.6 g	43.0 g
Cms	0.15 mm/N	0.14 mm/N
Rms	5.4 kg/s	1.7 kg/s
η_e (Eta Zero)	1.91 %	1.65 %
EBP	214 Hz	200 Hz

10FH500



10FH520



10FH530

10" - 500 W - 97 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	250 mm (10 in)
Overall Diameter	261 mm (10.28 in)
Bolt Circle Diameter	246 mm (9.69 in)
Baffle Cutout Diameter	230 mm (9.06 in)
Depth	130 mm (5.12 in)
Flange and gasket Thickness	11.5 mm (0.45 in)
Net Weight	7.5 kg (16.5 lb)
Shipping Box	294 x 290 x 203 mm
(Single Carton Box)	(11.6 x 11.4 x 8.0 in)
Shipping Weight	8 kg (17.6 lb)

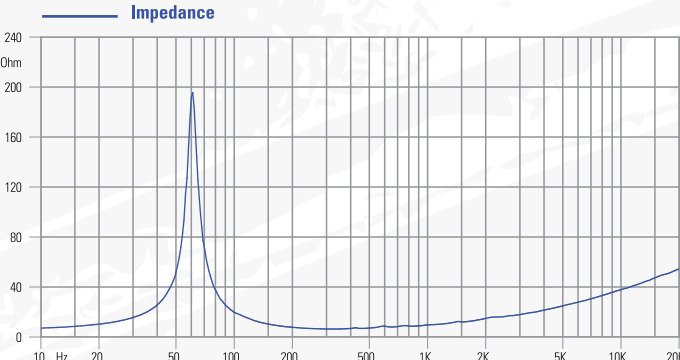
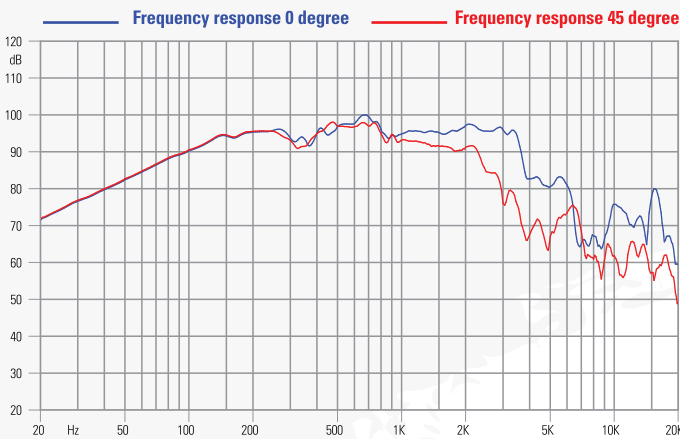
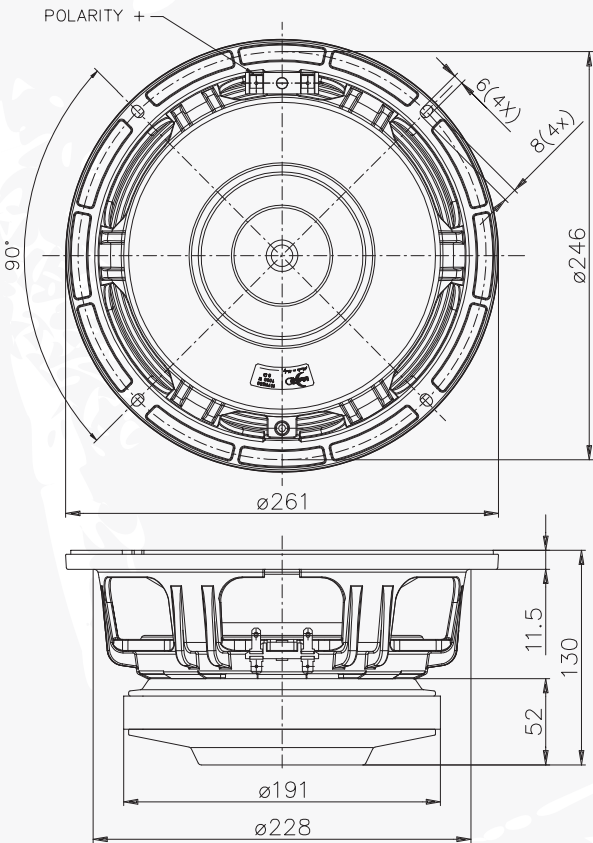
- NOTES:
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
 - (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth) / 2] + (magnetic\ gap\ depth / 3)$
 - (3) Maximum excursion before permanent damage
 - (4) Maximum power is defined as 3dB greater than nominal power
 - (5) Treated Polycotton

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	6.4 Ω
AES Power Handling (1)	500 W
Maximum Power Handling (4)	1000 W
Sensitivity (1W/1m)	97 dB
Frequency Range	60÷4000 Hz
Voice Coil Diameter	77 mm (3 in)
Winding Material	Al
Former Material	Glass Fiber
Winding Depth	18.5 mm (0.73 in)
Magnetic Gap Depth	10.5 mm (0.41 in)
Flux Density	1.2 T
Magnet	Ferrite Ring
Basket Material	Aluminum
Demodulation	Aluminum Ring
Cone Surround (5)	Triple Roll
NET Air Volume filled by Loudspeaker	2 dm³ (0.071 ft³)
Spider Profile	1x variable height waves

THIELE & SMALL PARAMETERS

Fs	60 Hz
Re	5.1 Ω
Qes	0.25
Qms	12.4
Qts	0.25
Vas	23.5 dm³ (0.83 ft³)
Sd	347 cm² (53.79 in²)
Xmax (2)	7.50 mm
Xdamage (3)	18.8 mm
Mms	50.3 g
Bl	19.5 N/A
Le	0.8 mH
Mmd	43.0 g
Cms	0.14 mm/N
Rms	1.53 kg/s
η _o (Eta Zero)	1.94 %
EBP	240 Hz



10RS430

10" - 400 W - 91 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	250 mm (10 in)
Overall Diameter	261 mm (10.28 in)
Bolt Circle Diameter	246 mm (9.69 in)
Baffle Cutout Diameter	230 mm (9.06 in)
Depth	136 mm (5.35 in)
Flange and gasket Thickness	17 mm (0.67 in)
Net Weight	6.8 kg (15.0 lb)
Shipping Box	294 x 290 x 203 mm
(Single Carton Box)	(11.6 x 11.4 x 8.0 in)
Shipping Weight	7.3 kg (16.1 lb)

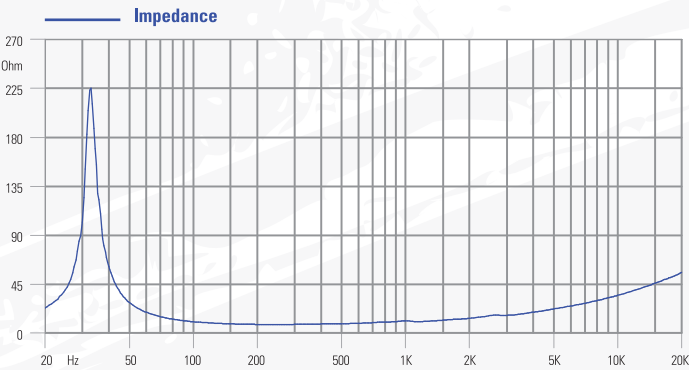
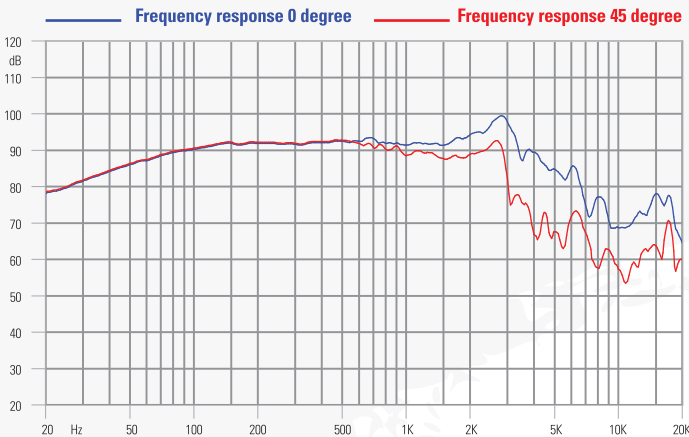
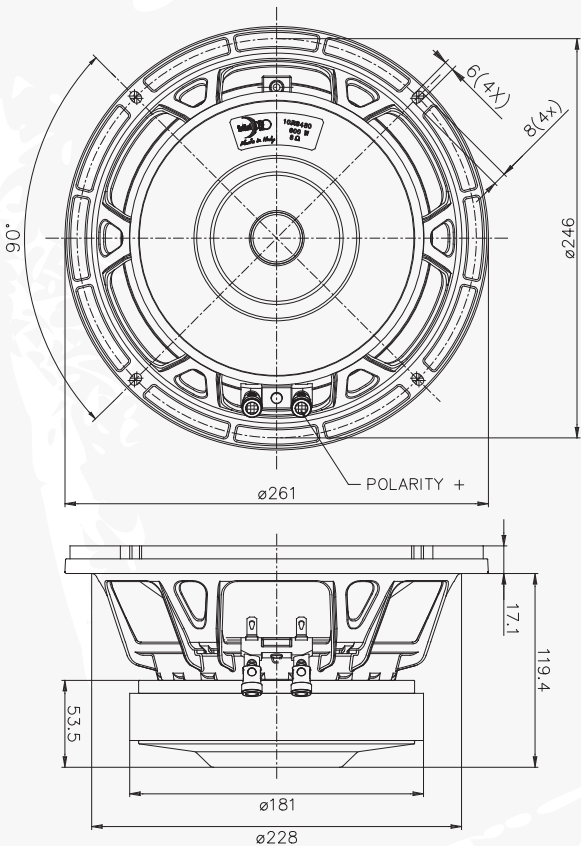
- NOTES:
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
 - (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth) / 2] + (magnetic\ gap\ depth / 3)$
 - (3) Maximum excursion before permanent damage
 - (4) Maximum power is defined as 3dB greater than nominal power
 - (5) EPDM (Rubber)

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	8 Ω
AES Power Handling (1)	400 W
Maximum Power Handling (4)	800 W
Sensitivity (1W/1m)	91 dB
Frequency Range	30÷2500 Hz
Voice Coil Diameter	65 mm (2.56 in)
Winding Material	Al
Former Material	Glass Fiber
Winding Depth	29.8 mm (1.17 in)
Magnetic Gap Depth	8 mm (0.31 in)
Flux Density	1.50 T
Magnet	Ferrite Ring
Basket Material	Aluminum
Demodulation	Aluminum Ring
Cone Surround (5)	Half Roll
NET Air Volume filled by Loudspeaker	2 dm³ (0.071 ft³)
Spider Profile	1x constant height waves

THIELE & SMALL PARAMETERS

Fs	32 Hz
Re	6.8 Ω
Qes	0.29
Qms	10.0
Qts	0.28
Vas	59.2 dm³ (2.09 ft³)
Sd	344 cm² (53.32 in²)
Xmax (2)	13.57 mm
Xdamage (3)	21.5 mm
Mms	69.0 g
Bl	18 N/A
Le	0.78 mH
Mmd	61.8 g
Cms	0.36 mm/N
Rms	1.4 kg/s
η _o (Eta Zero)	0.65 %
EBP	110 Hz



10PR410

10" - 300 W - 99 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	250 mm (10 in)
Overall Diameter	261 mm (10.28 in)
Bolt Circle Diameter	246 mm (9.69 in)
Baffle Cutout Diameter	230 mm (9.06 in)
Depth	131 mm (5.16 in)
Flange and gasket Thickness	11.5 mm (0.45 in)
Net Weight	7.5 kg (16.6 lb)
Shipping Box	294 x 290 x 203 mm
(Single Carton Box)	(11.6 x 11.4 x 8.0 in)
Shipping Weight	8.1 kg (17.9 lb)

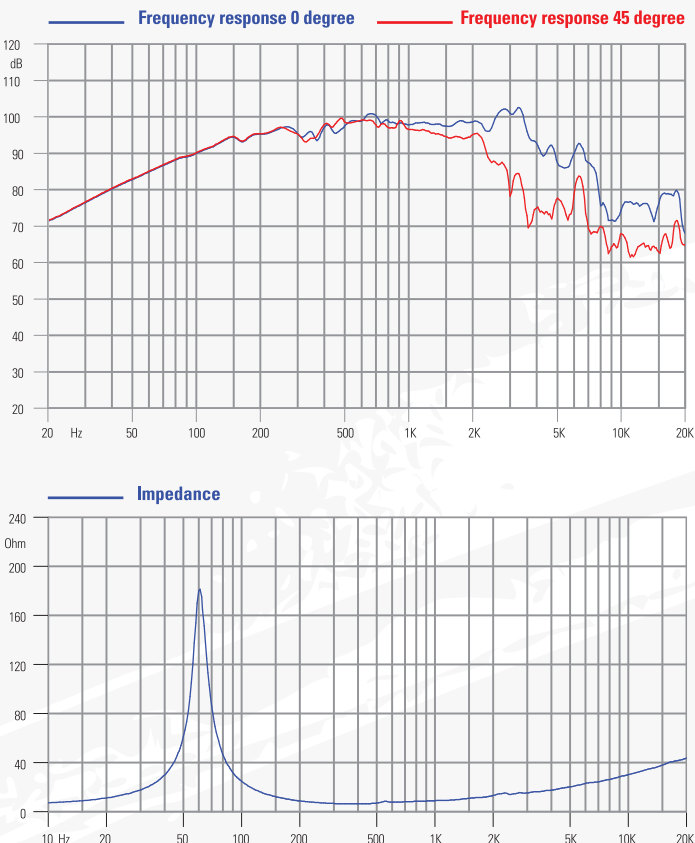
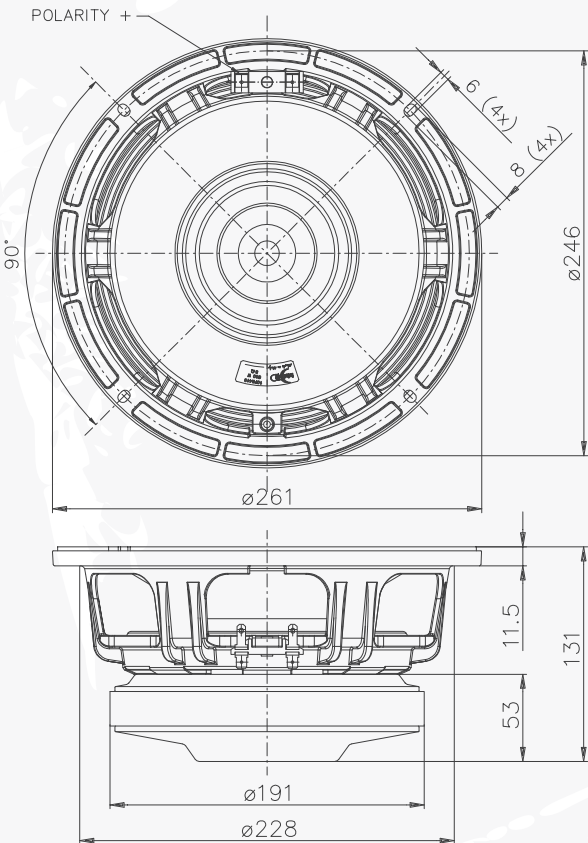
- NOTES:
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
 - (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth) / 2] + (magnetic\ gap\ depth / 3)$
 - (3) Maximum excursion before permanent damage
 - (4) Maximum power is defined as 3dB greater than nominal power
 - (5) Treated Polycotton

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	6.8 Ω
AES Power Handling (1)	300 W
Maximum Power Handling (4)	600 W
Sensitivity (1W/1m)	99 dB
Frequency Range	100÷2000 Hz
Voice Coil Diameter	65 mm (2.56 in)
Winding Material	Al
Former Material	Glass Fiber
Winding Depth	12.5 mm (0.49 in)
Magnetic Gap Depth	10.5 mm (0.41 in)
Flux Density	1.3 T
Magnet	Ferrite Ring
Basket Material	Aluminum
Demodulation	Aluminum Ring
Cone Surround (5)	Accordion (4 Waves)
NET Air Volume filled by Loudspeaker	2 dm³ (0.070 ft³)
Spider Profile	1x variable height waves

THIELE & SMALL PARAMETERS

Fs	60 Hz
Re	5.4 Ω
Qes	0.23
Qms	10.5
Qts	0.23
Vas	32.0 dm³ (1.13ft³)
Sd	345 cm² (53.48 in²)
Xmax (2)	4.50 mm
Xdamage (3)	12.2 mm
Mms	36.5 g
Bl	18.5 N/A
Le	0.6 mH
Mmd	33.3 g
Cms	0.19 mm/N
Rms	1.3 kg/s
η _o (Eta Zero)	3.09 %
EBP	261 Hz



10PR300

10" - 300 W - 98 dB

10PR320

10" - 300 W - 96 dB



NOMINAL SPECIFICATIONS

	10PR300	10PR320
Nominal Diameter	250 mm (10 in)	250 mm (10 in)
Overall Diameter	261 mm (10.28 in)	261 mm (10.28 in)
Bolt Circle Diameter	246 mm (9.69 in)	246 mm (9.69 in)
Baffle Cutout Diameter	232 mm (9.13 in)	230 mm (9.06 in)
Depth	115.3 mm (4.54 in)	110 mm (4.33 in)
Flange and gasket Thickness	12.2 mm (0.48 in)	12 mm (0.47 in)
Net Weight	2.3 kg (5.1 lb)	2.55 kg (5.6 lb)
Shipping Box	294 x 290 x 203 mm	282 x 280 x 140 mm
(Single Box)	(11.6 x 11.4 x 8.0 in)	(11.1 x 11.0 x 5.5 in)
Shipping Weight	2.8 kg (6.16 lb)	3.1 kg (6.8 lb)

NOTES:

- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
 (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
 (3) Maximum excursion before permanent damage
 (4) Maximum power is defined as 3dB greater than nominal power
 (5) Treated Polycotton

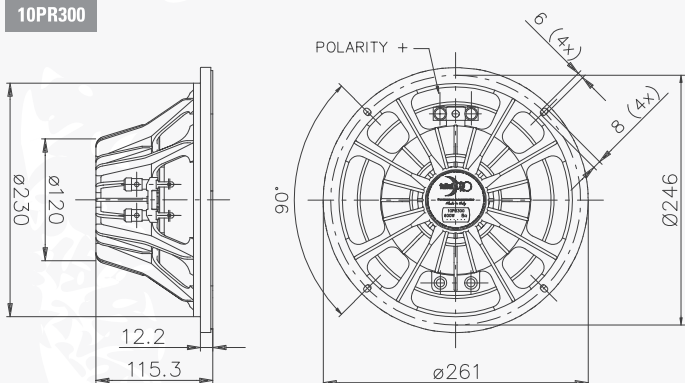
TECHNICAL PARAMETERS

	10PR300	10PR320
Nominal Impedance	8 Ω	8 Ω
Minimum Impedance	6.4 Ω	6.4 Ω
AES Power Handling (1)	300 W	300 W
Maximum Power Handling (4)	600 W	600 W
Sensitivity (1W/1m)	98 dB	96 dB
Frequency Range	60÷5000 Hz	50÷4000 Hz
Voice Coil Diameter	65 mm (2.56 in)	65 mm (2.56 in)
Winding Material	Al	Al
Former Material	Glass Fiber	Glass Fiber
Winding Depth	12.5 mm (0.49 in)	17.4 mm (0.69 in)
Magnetic Gap Depth	8 mm (0.31 in)	8 mm (0.31 in)
Flux Density	1.25 T	1.2 T
Magnet	Neodymium Slug	Neodymium Slug
Basket Material	Aluminum	Aluminum
Demodulation	No	No
Cone Surround (5)	M-Roll	Triple Roll
NET Air Volume filled by Loudspeaker	1.3 dm ³ (0.046 ft ³)	1.3 dm ³ (0.046 ft ³)
Spider Profile	1x variable height waves	

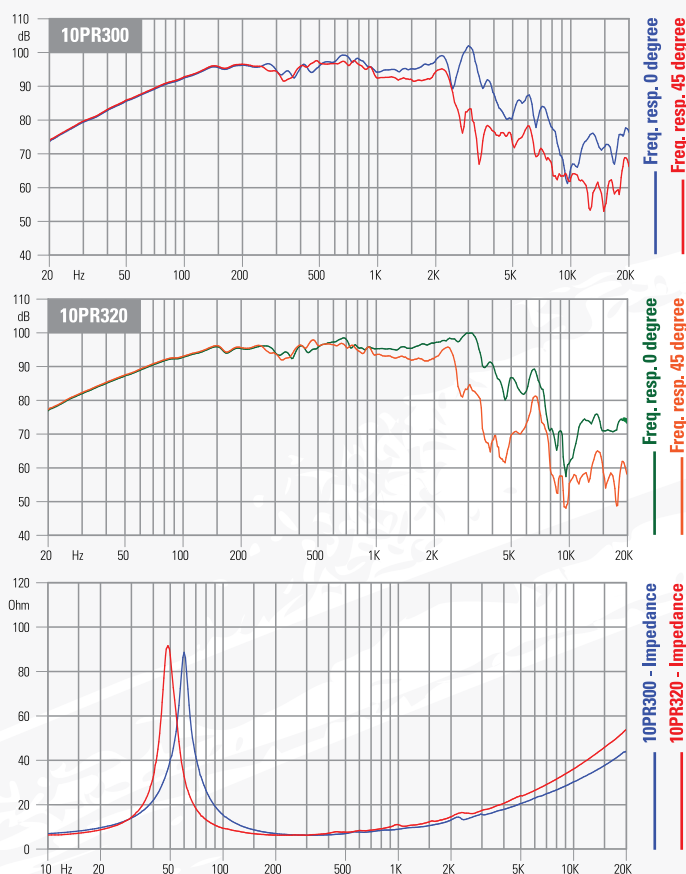
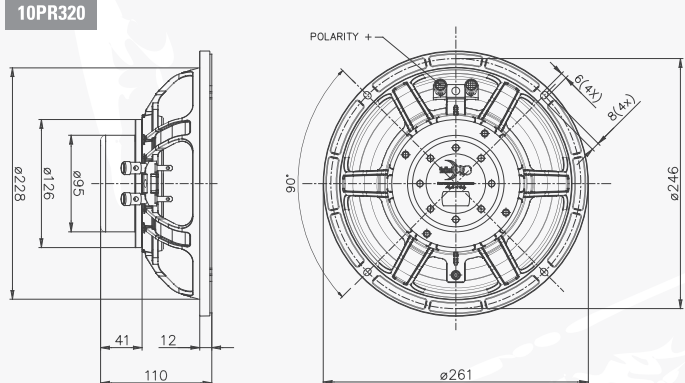
THIELE & SMALL PARAMETERS

	10PR300	10PR320
Fs	60 Hz	48 Hz
Re	5.4 Ω	5.3 Ω
Qes	0.29	0.31
Qms	5.8	4.6
Qts	0.28	0.29
Vas	42.2 dm ³ (1.49 ft ³)	52.7 dm ³ (1.86 ft ³)
Sd	348 cm ² (53.94 in ²)	347 cm ² (53.71 in ²)
Xmax (2)	4.92 mm	7.37 mm
Xdamage (3)	14 mm	17 mm
Mms	28.2 g	35.0 g
Bl	14.1 N/A	13.5 N/A
Le	0.6 mH	0.57 mH
Mmd	20.0 g	27.7 g
Cms	0.25 mm/N	0.31 mm/N
Rms	1.8 kg/s	2.3 kg/s
η_e (Eta Zero)	3.06 %	1.84 %
EBP	207 Hz	155 Hz

10PR300



10PR320



10PR310

10" - 300 W - 98 dB

10PR330

10" - 300 W - 96 dB



NOMINAL SPECIFICATIONS

	10PR310	10PR330
Nominal Diameter	250 mm (10 in)	250 mm (10 in)
Overall Diameter	261 mm (10.28 in)	261 mm (10.28 in)
Bolt Circle Diameter	246 mm (9.69 in)	246 mm (9.69 in)
Baffle Cutout Diameter	230 mm (9.13 in)	230 mm (9.06 in)
Depth	109 mm (4.29 in)	111 mm (4.37 in)
Flange and gasket Thickness	12 mm (0.47 in)	12 mm (0.47 in)
Net Weight	4.1 kg (9.0 lb)	4.1 kg (9.0 lb)
Shipping Box	282 x 280 x 140 mm	282 x 280 x 140 mm
(Single Box)	(11.1 x 11.0 x 5.5 in)	(11.1 x 11.0 x 5.5 in)
Shipping Weight	4.7 kg (10.4 lb)	4.7 kg (10.4 lb)

NOTES:

- (1) 2 Hours Test According to AES 2-1984 Rev, 2003
 (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
 (3) Maximum excursion before permanent damage
 (4) Maximum power is defined as 3dB greater than nominal power
 (5) Treated Polycotton

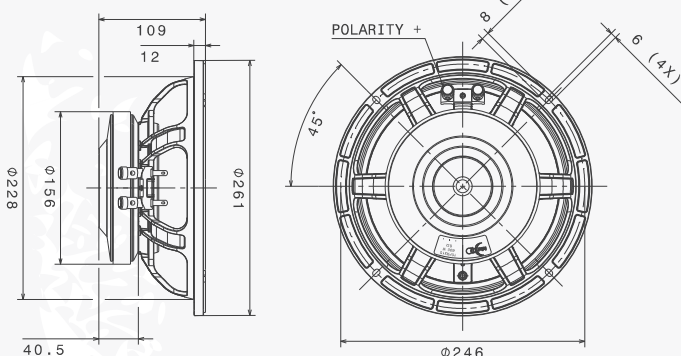
TECHNICAL PARAMETERS

	10PR310	10PR330
Nominal Impedance	8 Ω	8 Ω
Minimum Impedance	6.6 Ω	6.6 Ω
AES Power Handling (1)	300 W	300 W
Maximum Power Handling (4)	600 W	600 W
Sensitivity (1W/1m)	98 dB	96 dB
Frequency Range	60÷4000 Hz	60÷3150 Hz
Voice Coil Diameter	65 mm (2.56 in)	65 mm (2.56 in)
Winding Material	Al	Al
Former Material	Glass Fiber	Glass Fiber
Winding Depth	12.5 mm (0.49 in)	17.4 mm (0.69 in)
Magnetic Gap Depth	8 mm (0.31 in)	8 mm (0.31 in)
Flux Density	1.2 T	1.2 T
Magnet	Ferrite Ring	Ferrite Ring
Basket Material	Aluminum	Aluminum
Demodulation	No	No
Cone Surround (5)	M-Roll	M-Roll
NET Air Volume filled by Loudspeaker	1.3 dm ³ (0.046 ft ³)	1.3 dm ³ (0.046 ft ³)
Spider Profile	1x variable height waves	

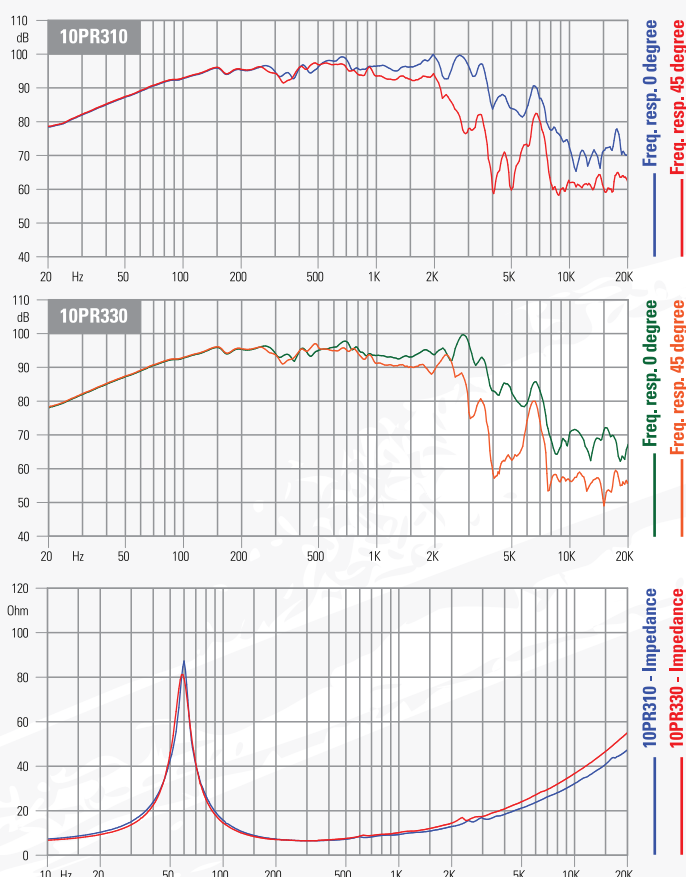
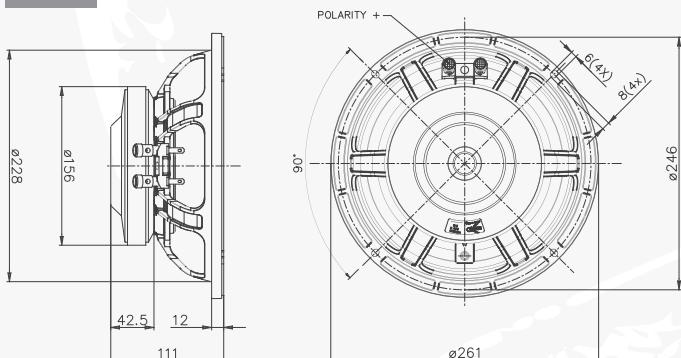
THIELE & SMALL PARAMETERS

	10PR310	10PR330
Fs	60 Hz	60 Hz
Re	5.4 Ω	5.3 Ω
Qes	0.36	0.36
Qms	5.7	4.6
Qts	0.34	0.33
Vas	32.2 dm ³ (1.14 ft ³)	32.5 dm ³ (1.15 ft ³)
Sd	348 cm ² (53.94 in ²)	348 cm ² (53.89 in ²)
Xmax (2)	4.92 mm	7.37 mm
Xdamage (3)	15.25 mm	15.25 mm
Mms	36.9 g	36.5 g
Bl	14.4 N/A	14.3 N/A
Le	0.64 mH	0.64 mH
Mmd	29.6 g	29.2 g
Cms	0.19 mm/N	0.19 mm/N
Rms	2.44 kg/s	3.0 kg/s
η_e (Eta Zero)	1.86 %	1.91 %
EBP	167 Hz	167 Hz

10PR310



10PR330



10RS350

10" - 300 W - 91 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	250 mm (10 in)
Overall Diameter	261 mm (10.28 in)
Bolt Circle Diameter	246 mm (9.69 in)
Baffle Cutout Diameter	230 mm (9.06 in)
Depth	116.5 mm (4.59 in)
Flange and gasket Thickness	17.1 mm (0.67 in)
Net Weight	4.2 kg (9.3 lb)
Shipping Box	282 x 280 x 140 mm
(Single Carton Box)	(11.1 x 11.0 x 5.5 in)
Shipping Weight	4.8 kg (10.6 lb)

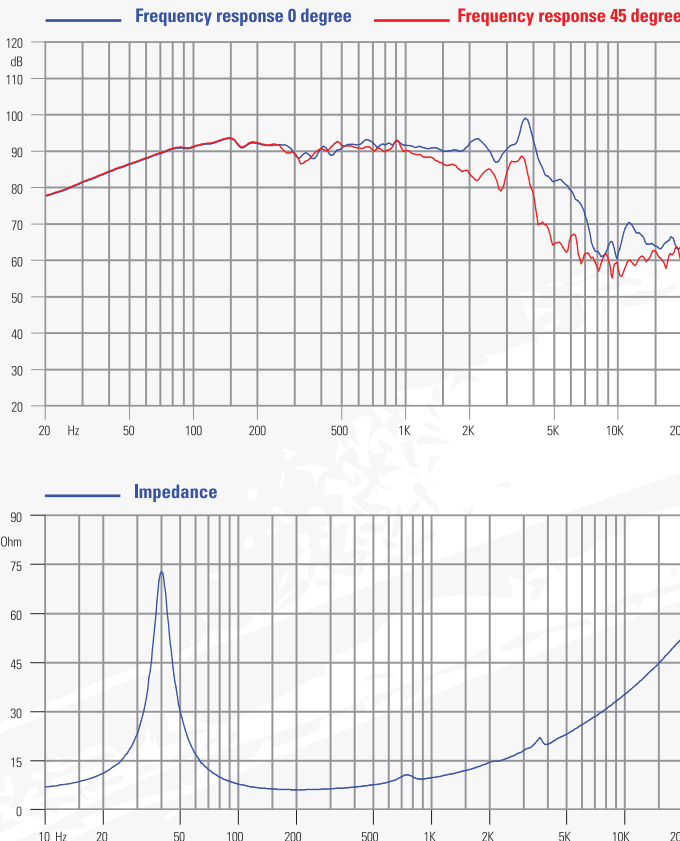
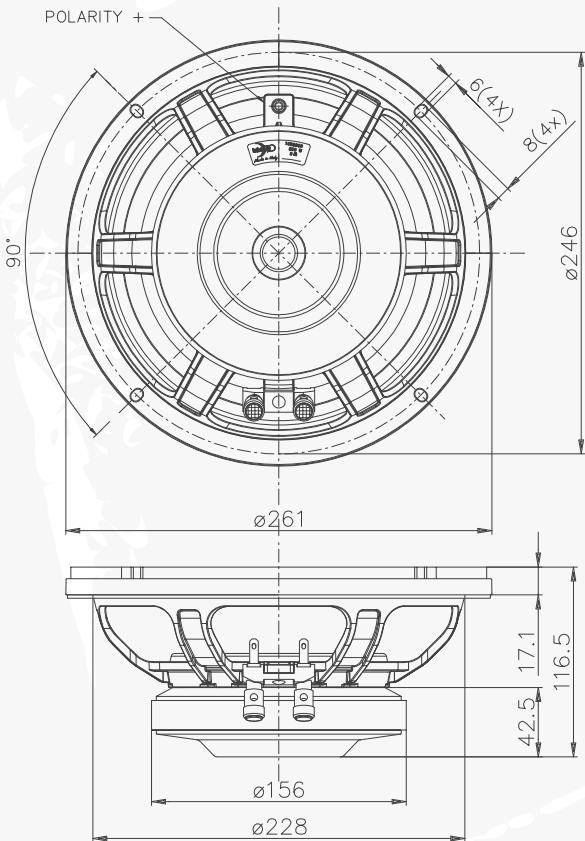
- NOTES:
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
 - (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
 - (3) Maximum excursion before permanent damage
 - (4) Maximum power is defined as 3dB greater than nominal power
 - (5) NBR (Rubber)

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	6 Ω
AES Power Handling (1)	300 W
Maximum Power Handling (4)	600 W
Sensitivity (1W/1m)	91 dB
Frequency Range	40÷2500 Hz
Voice Coil Diameter	65 mm (2.56 in)
Winding Material	Al
Former Material	Glass Fiber
Winding Depth	17.4 mm (0.69 in)
Magnetic Gap Depth	8 mm (0.31 in)
Flux Density	1.2 T
Magnet	Ferrite Ring
Basket Material	Aluminum
Demodulation	No
Cone Surround (5)	Half Roll
NET Air Volume filled by Loudspeaker	1.4 dm³ (0.049 ft³)
Spider Profile	1x variable height waves

THIELE & SMALL PARAMETERS

Fs	40 Hz
Re	5.3 Ω
Qes	0.4
Qms	5.2
Qts	0.37
Vas	44.3 dm³ (1.57 ft³)
Sd	344 cm² (53.32 in²)
Xmax (2)	7.37 mm
Xdamage (3)	17.4 mm
Mms	59 g
Bl	14 N/A
Le	0.95 mH
Mmd	51.8 g
Cms	0.27 mm/N
Rms	2.9 kg/s
η₀ (Eta Zero)	0.69 %
EBP	100 Hz



10FE330

10" - 250 W - 92 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	250 mm (10 in)
Overall Diameter	260 mm (10.24 in)
Bolt Circle Diameter	246 mm (9.69 in)
Baffle Cutout Diameter	233 mm (9.17 in)
Depth	117 mm (4.61 in)
Flange and gasket Thickness	11 mm (0.43 in)
Net Weight	3.4 kg (7.5 lb)
Shipping Box	285 x 285 x 165 mm
(Single Carton Box)	(11.2 x 11.2 x 6.49 in)
Shipping Weight	4.0 kg (8.2 lb)

NOTES:

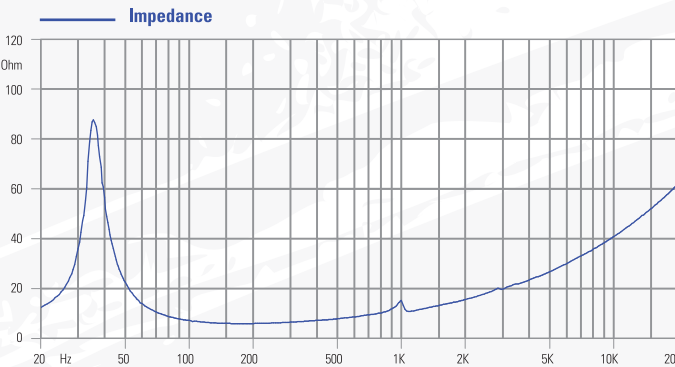
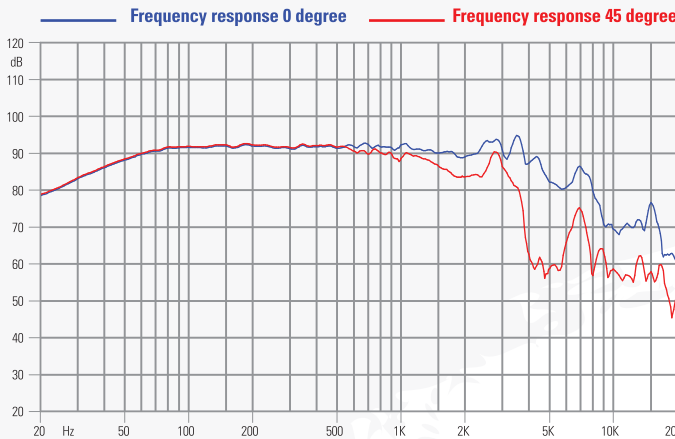
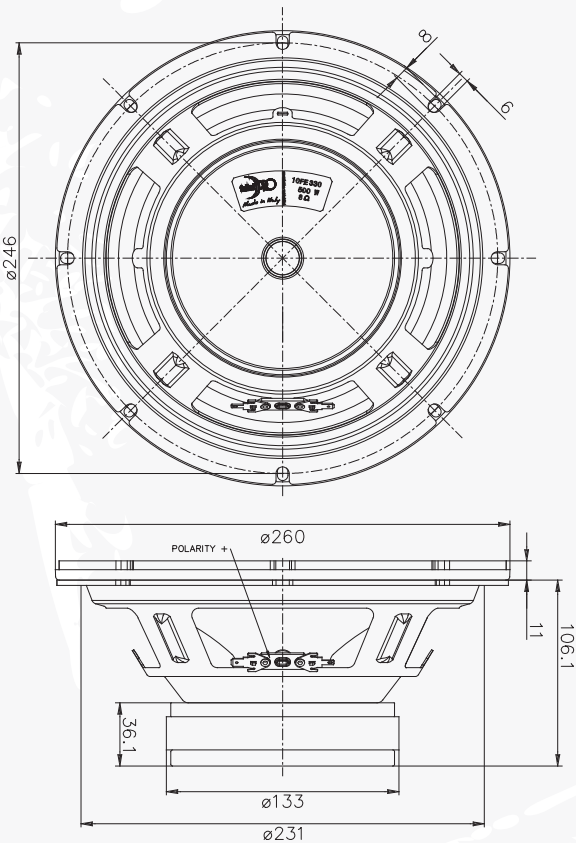
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
- (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
- (3) Maximum excursion before permanent damage
- (4) Maximum power is defined as 3dB greater than nominal power
- (5) NBR (Rubber)

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	6.1 Ω
AES Power Handling (1)	250 W
Maximum Power Handling (4)	500 W
Sensitivity (1W/1m)	92 dB
Frequency Range	35÷4000 Hz
Voice Coil Diameter	52 mm (2.05 in)
Winding Material	Al
Former Material	Glass Fiber
Winding Depth	19.3 mm (0.76 in)
Magnetic Gap Depth	8 mm (0.31 in)
Flux Density	1.1 T
Magnet	Ferrite Ring
Basket Material	Steel
Demodulation	No
Cone Surround (5)	Half Roll
NET Air Volume filled by Loudspeaker	1.4 dm³ (0.049 ft³)
Spider Profile	1x constant height waves

THIELE & SMALL PARAMETERS

Fs	35 Hz
Re	5.3 Ω
Qes	0.40
Qms	6.7
Qts	0.38
Vas	72.4 dm³ (2.56 ft³)
Sd	382 cm² (59.21 in²)
Xmax (2)	8.32 mm
Xdamage (3)	13.6 mm
Mms	58.2 g
Bl	13 N/A
Le	1.1 mH
Mmd	49.8 g
Cms	0.36 mm/N
Rms	1.9 kg/s
η _o (Eta Zero)	0.75 %
EBP	87 Hz



10FE300

10" - 250 W - 96 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	250 mm (10 in)
Overall Diameter	260 mm (10.24 in)
Bolt Circle Diameter	246 mm (9.69 in)
Baffle Cutout Diameter	233 mm (9.17 in)
Depth	110 mm (4.33 in)
Flange and gasket Thickness	7 mm (0.28 in)
Net Weight	3.2 kg (7.1 lb)
Shipping Box	282 x 280 x 155 mm
(Single Carton Box)	(11.1 x 11.0 x 6.10 in)
Shipping Weight	3.7 kg (8.2 lb)

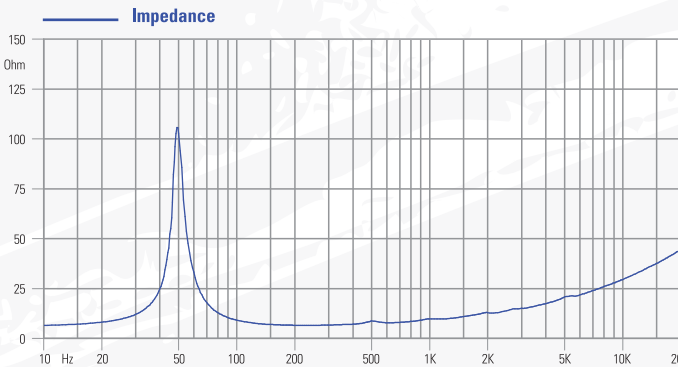
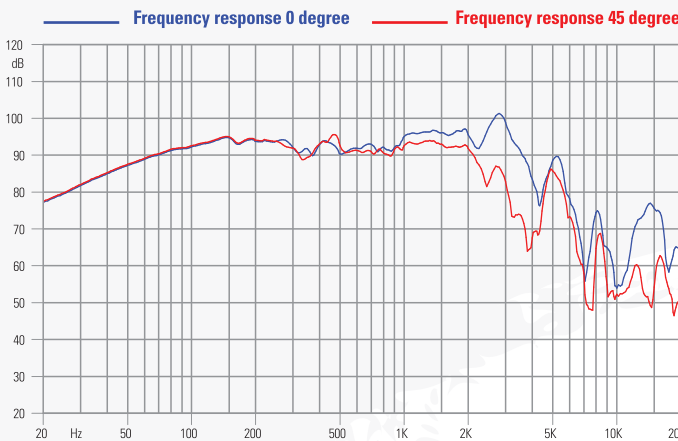
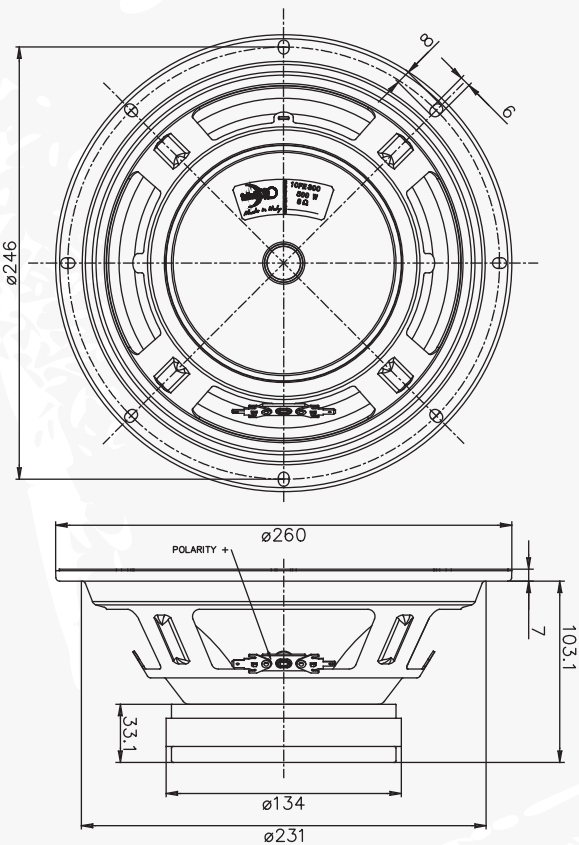
- NOTES:
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
 - (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
 - (3) Maximum excursion before permanent damage
 - (4) Maximum power is defined as 3dB greater than nominal power
 - (5) Treated Polycotton

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	6.8 Ω
AES Power Handling (1)	250 W
Maximum Power Handling (4)	500 W
Sensitivity (1W/1m)	96 dB
Frequency Range	50÷4000 Hz
Voice Coil Diameter	52 mm (2.05 in)
Winding Material	Al
Former Material	Glass Fiber
Winding Depth	13.7 mm (0.54 in)
Magnetic Gap Depth	8 mm (0.31 in)
Flux Density	1.1 T
Magnet	Ferrite Ring
Basket Material	Steel
Demodulation	No
Cone Surround (5)	Triple Roll
NET Air Volume filled by Loudspeaker	1.25 dm³ (0.044 ft³)
Spider Profile	1x variable height waves

THIELE & SMALL PARAMETERS

Fs	50 Hz
Re	5.8 Ω
Qes	0.54
Qms	13.1
Qts	0.52
Vas	50.5 dm³ (1.78 ft³)
Sd	358 cm² (55.49 in²)
Xmax (2)	5.52 mm
Xdamage (3)	13.1 mm
Mms	35.9 g
Bl	11.3 N/A
Le	0.6 mH
Mmd	28.2 g
Cms	0.28 mm/N
Rms	0.9 kg/s
η _o (Eta Zero)	1.20 %
EBP	93 Hz



10FE400

10" - 200 W - 96 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	250 mm (10 in)
Overall Diameter	260 mm (10.24 in)
Bolt Circle Diameter	246 mm (9.69 in)
Baffle Cutout Diameter	233 mm (9.17 in)
Depth	111 mm (4.37 in)
Flange and gasket Thickness	7 mm (0.28 in)
Net Weight	2.95 kg (6.5 lb)
Shipping Box	285 x 285 x 165 mm
(Single Carton Box)	(11.2 x 11.2 x 6.49 in)
Shipping Weight	3.5 kg (7.7 lb)

NOTES:

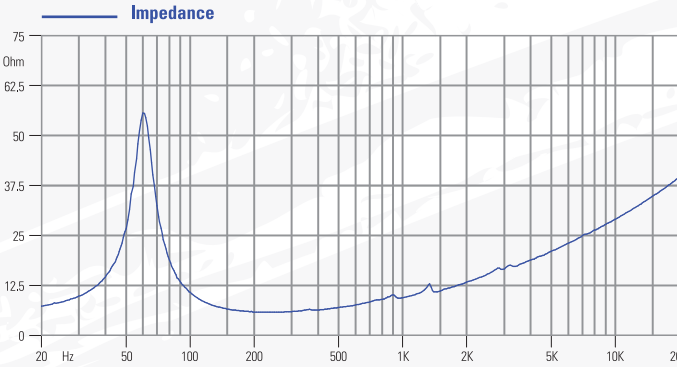
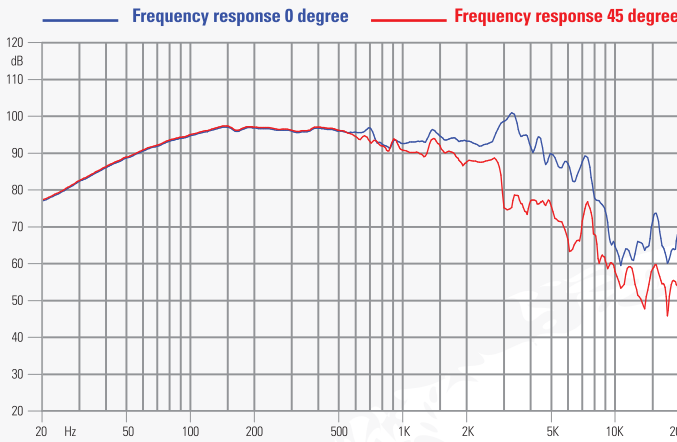
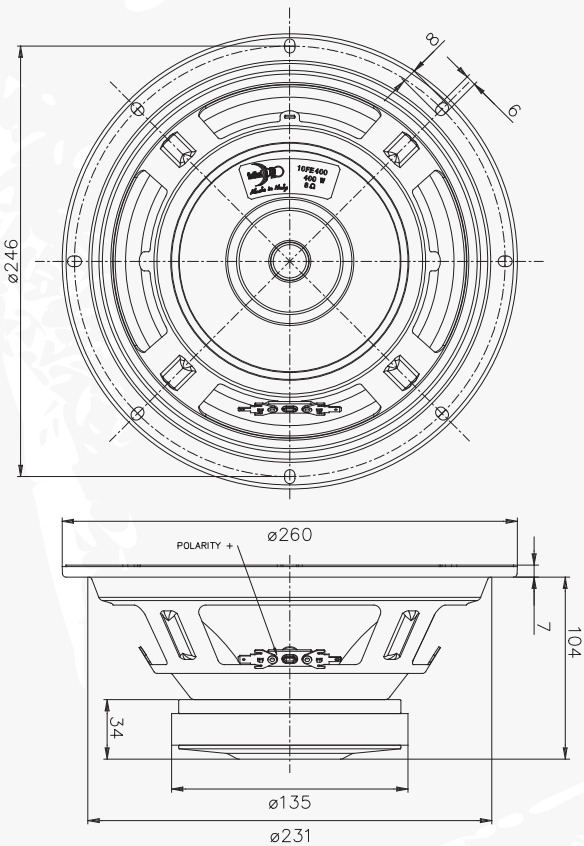
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
- (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
- (3) Maximum excursion before permanent damage
- (4) Maximum power is defined as 3dB greater than nominal power
- (5) Treated Polycotton

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	6 Ω
AES Power Handling (1)	200 W
Maximum Power Handling (4)	400 W
Sensitivity (1W/1m)	96 dB
Frequency Range	60÷4500 Hz
Voice Coil Diameter	44 mm (1.73 in)
Winding Material	Al
Former Material	Al
Winding Depth	13.5 mm (0.53 in)
Magnetic Gap Depth	8 mm (0.31 in)
Flux Density	1.10 T
Magnet	Ferrite Ring
Basket Material	Steel
Demodulation	No
Cone Surround (5)	Triple Roll
NET Air Volume filled by Loudspeaker	1.25 dm³ (0.044 ft³)
Spider Profile	1x constant height waves

THIELE & SMALL PARAMETERS

Fs	60 Hz
Re	5 Ω
Qes	0.52
Qms	5.2
Qts	0.47
Vas	35.3 dm³ (1.25 ft³)
Sd	362 cm² (56.11 in²)
Xmax (2)	5.42 mm
Xdamage (3)	14.9 mm
Mms	36.5 g
Bl	11.5 N/A
Le	0.68 mH
Mmd	28.7 g
Cms	0.19 mm/N
Rms	2.7 kg/s
η₀ (Eta Zero)	1.42 %
EBP	115 Hz



10FE200

10" - 150 W - 96 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	250 mm (10 in)
Overall Diameter	256.8 mm (10.11 in)
Bolt Circle Diameter	243.8 mm (9.60 in)
Baffle Cutout Diameter	233.8 mm (9.20 in)
Depth	102 mm (4.02 in)
Flange and gasket Thickness	8 mm (0.31 in)
Net Weight	2.2 kg (4.9 lb)
Shipping Box	282 x 280 x 140 mm
(Single Carton Box)	(11.1 x 11.0 x 5.5 in)
Shipping Weight	2.6 kg (5.7 lb)

NOTES:

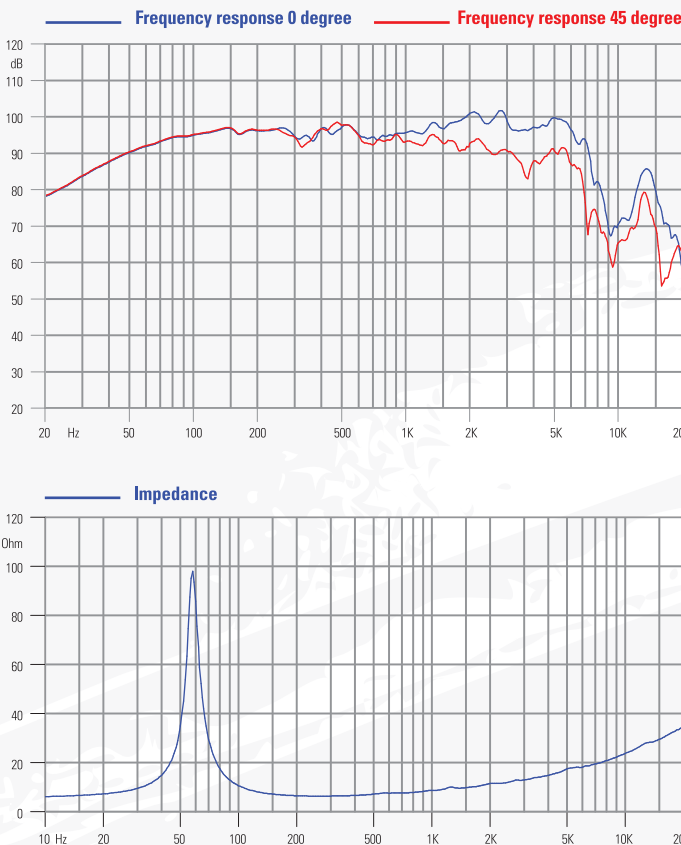
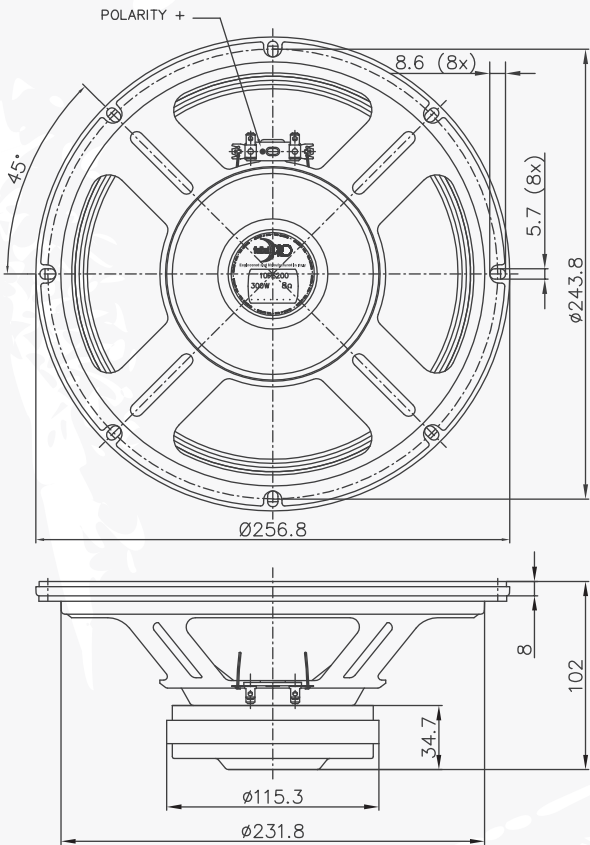
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
- (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
- (3) Maximum excursion before permanent damage
- (4) Maximum power is defined as 3dB greater than nominal power
- (5) Treated Polycotton

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	6.2 Ω
AES Power Handling (1)	150 W
Maximum Power Handling (4)	300 W
Sensitivity (1W/1m)	96 dB
Frequency Range	50÷4500 Hz
Voice Coil Diameter	37 mm (1.46 in)
Winding Material	Al
Former Material	Kapton
Winding Depth	12 mm (0.47 in)
Magnetic Gap Depth	8 mm (0.31 in)
Flux Density	1 T
Magnet	Ferrite Ring
Basket Material	Steel
Demodulation	No
Cone Surround (5)	Accordion (4 Waves)
NET Air Volume filled by Loudspeaker	0.6 dm³ (0.021 ft³)
Spider Profile	1x constant height waves

THIELE & SMALL PARAMETERS

Fs	55 Hz
Re	5.9 Ω
Qes	0.74
Qms	11.3
Qts	0.69
Vas	61.7 dm³ (2.18 ft³)
Sd	359.7 cm² (55.75 in²)
Xmax (2)	4.67 mm
Xdamage (3)	10.4 mm
Mms	24.5 g
Bl	8.2 N/A
Le	0.42 mH
Mmd	16.8 g
Cms	0.34 mm/N
Rms	0.75 kg/s
η _o (Eta Zero)	1.34 %
EBP	74 Hz



8PR320

8" - 300 W - 95 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	200 mm (8 in)
Overall Diameter	223.7/207.9 mm (8.81/8.18 in)
Bolt Circle Diameter	210 mm (8.27 in)
Baffle Cutout Diameter	183 mm (7.20 in)
Depth	99.5 mm (3.92 in)
Flange and gasket Thickness	11 mm (0.43 in)
Net Weight	2.45 kg (5.4 lb)
Shipping Box	235 x 235 x 155 mm
(Single Carton Box)	(9.3 x 9.3 x 6.1 in)
Shipping Weight	3.2 kg (7.1 lb)

NOTES:

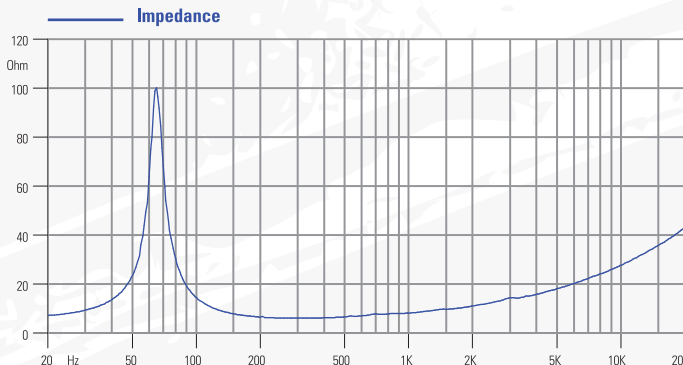
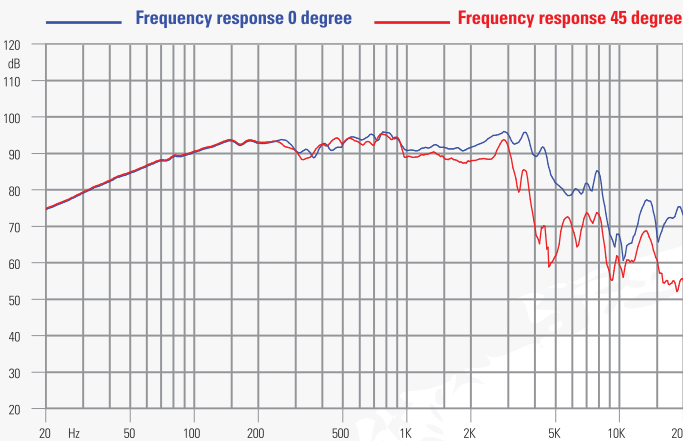
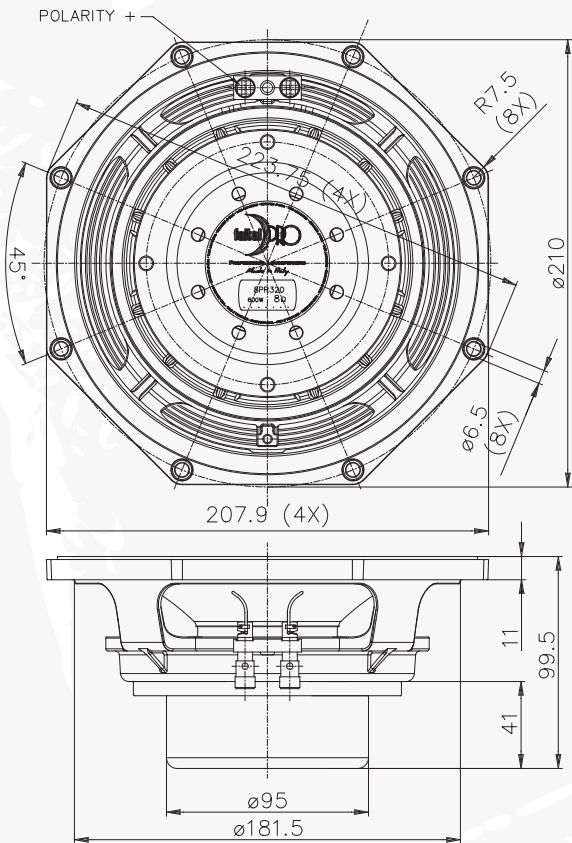
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
- (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
- (3) Maximum excursion before permanent damage
- (4) Maximum power is defined as 3dB greater than nominal power
- (5) Treated Polycotton

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	6.1 Ω
AES Power Handling (1)	300 W
Maximum Power Handling (4)	600 W
Sensitivity (1W/1m)	95 dB
Frequency Range	60÷4000 Hz
Voice Coil Diameter	65 mm (2.56 in)
Winding Material	Al
Former Material	Glass Fiber
Winding Depth	17.4 mm (0.69 in)
Magnetic Gap Depth	8.2 mm (0.32 in)
Flux Density	1.2 T
Magnet	Neodymium Slug
Basket Material	Aluminum
Demodulation	No
Cone Surround (5)	Triple Roll
NET Air Volume filled by Loudspeaker	0.82 dm³ (0.029 ft³)
Spider Profile	1x variable height waves

THIELE & SMALL PARAMETERS

Fs	65 Hz
Re	5.4 Ω
Qes	0.43
Qms	8.2
Qts	0.41
Vas	13.1 dm³ (0.46 ft³)
Sd	223 cm² (34.57 in²)
Xmax (2)	7.33 mm
Xdamage (3)	16.85 mm
Mms	31.7 g
Bl	12.9 N/A
Le	0.52 mH
Mmd	27.9 g
Cms	0.19 mm/N
Rms	1.6 kg/s
η _o (Eta Zero)	0.83 %
EBP	151 Hz



NEODYMIUM WOOFER

8RS340

8" - 300 W - 91 dB

FERRITE WOOFER

8RS350

8" - 300 W - 90 dB



NOMINAL SPECIFICATIONS

	8RS340	8RS350
Nominal Diameter	200 mm (8 in)	200 mm (8 in)
Overall Diameter	223.75/207.9 mm (8.81/8.18 in)	223.75/207.9 mm (8.81/8.18 in)
Bolt Circle Diameter	210 mm (8.27 in)	210 mm (8.27 in)
Baffle Cutout Diameter	183 mm (7.20 in)	183 mm (7.20 in)
Depth	104.8 mm (4.13 in)	106.5 mm (4.19 in)
Flange and gasket Thickness	16 mm (0.63 in)	16 mm (0.63 in)
Net Weight	2.5 kg (5.5 lb)	4.1 kg (9.0 lb)
Shipping Box	235 x 235 x 155 mm (9.3 x 9.3 x 6.1 in)	235 x 235 x 155 mm (9.3 x 9.3 x 6.1 in)
Shipping Weight	3.2 kg (7.1 lb)	4.8 kg (10.6 lb)

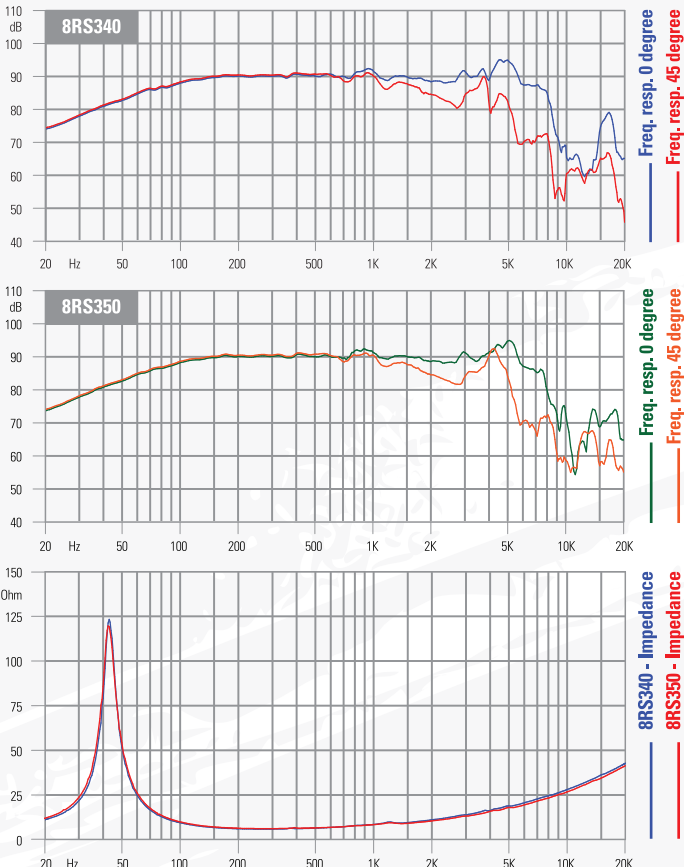
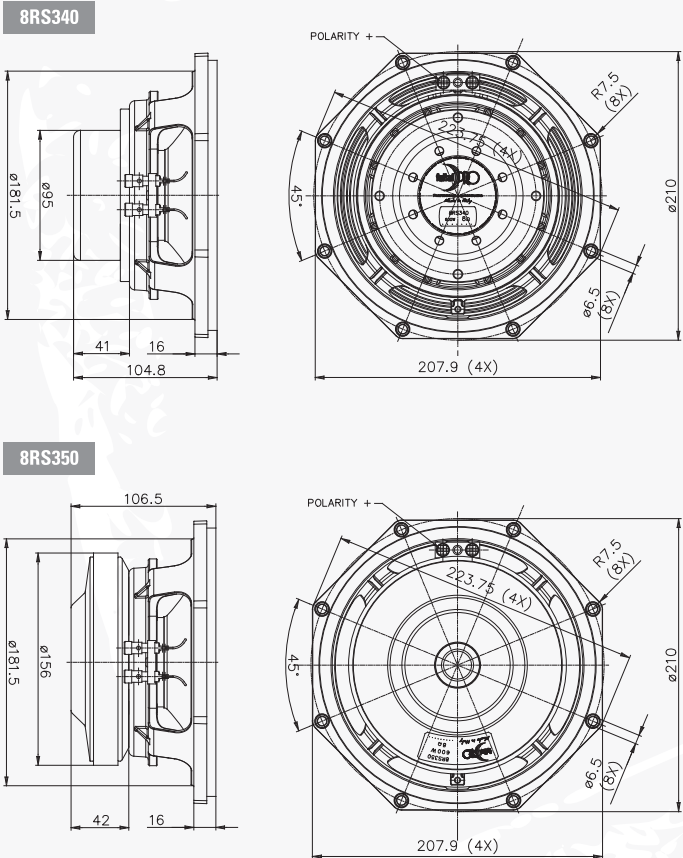
- NOTES:
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
 - (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
 - (3) Maximum excursion before permanent damage
 - (4) Maximum power is defined as 3dB greater than nominal power
 - (5) NBR (Rubber)

TECHNICAL PARAMETERS

	8RS340	8RS350
Nominal Impedance	8 Ω	8 Ω
Minimum Impedance	6 Ω	6.2 Ω
AES Power Handling (1)	300 W	300 W
Maximum Power Handling (4)	600 W	600 W
Sensitivity (1W/1m)	91 dB	90 dB
Frequency Range	50÷6300 Hz	50÷6300 Hz
Voice Coil Diameter	65 mm (2.56 in)	65 mm (2.56 in)
Winding Material	Al	Al
Former Material	Glass Fiber	Glass Fiber
Winding Depth	17.4 mm (0.69 in)	17.4 mm (0.69 in)
Magnetic Gap Depth	8.2 mm (0.32 in)	8 mm (0.31 in)
Flux Density	1.2 T	1.2 T
Magnet	Neodymium Slug	Ferrite Ring
Basket Material	Aluminum	Aluminum
Demodulation	No	Aluminum Ring
Cone Surround (5)	Half Roll	Half Roll
NET Air Volume filled by Loudspeaker	0.82 dm³ (0.029 ft³)	1.04 dm³ (0.037 ft³)
Spider Profile	1x constant height waves	

THIELE & SMALL PARAMETERS

	8RS340	8RS350
Fs	42 Hz	42 Hz
Re	5.3 Ω	5.3 Ω
Qes	0.36	0.31
Qms	6.6	6.9
Qts	0.34	0.30
Vas	25.5 dm³ (0.90 ft³)	23.7 dm³ (0.84 ft³)
Sd	227.8 cm² (35.31 in²)	226 cm² (35.03 in²)
Xmax (2)	7.33 mm	7.37 mm
Xdamage (3)	16.85 mm	16.85 mm
Mms	40.8 g	43.3 g
Bl	13 N/A	13.9 N/A
Le	0.64 mH	0.6 mH
Mmd	36.9 g	39.5 g
Cms	0.35 mm/N	0.33 mm/N
Rms	1.6 kg/s	1.7 kg/s
η _o (Eta Zero)	0.54 %	0.54 %
EBP	117 Hz	134 Hz



8FE300

8" - 250 W - 95 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	200 mm (8 in)
Overall Diameter	209 mm (8.23 in)
Bolt Circle Diameter	197.5 mm (7.78 in)
Baffle Cutout Diameter	183 mm (7.20 in)
Depth	95 mm (3.74 in)
Flange and gasket Thickness	7 mm (0.28 in)
Net Weight	3.1 kg (6.8 lb)
Shipping Box	227 x 224 x 113 mm
(Single Carton Box)	(8.93 x 8.81 x 4.44 in)
Shipping Weight	3.2 kg (7.1 lb)

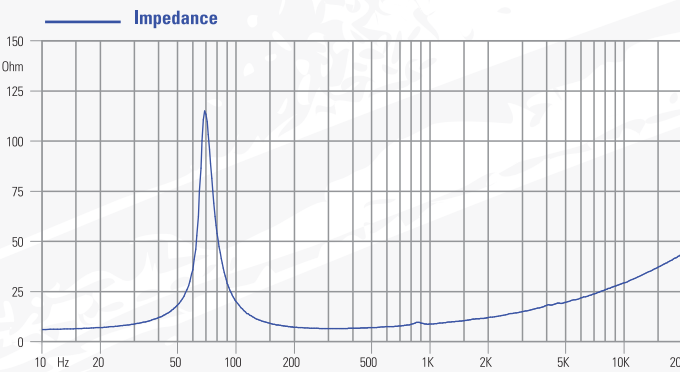
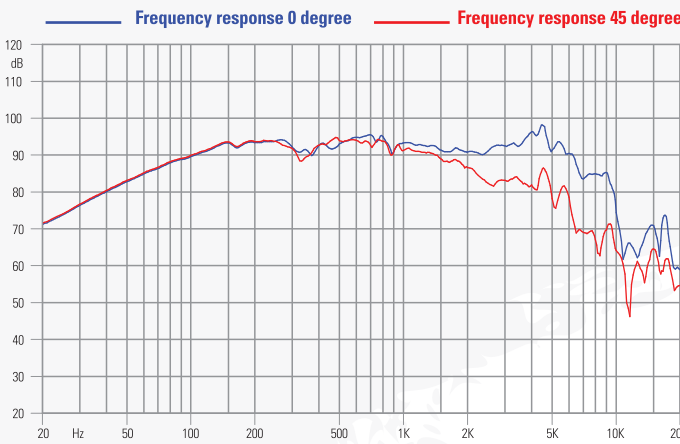
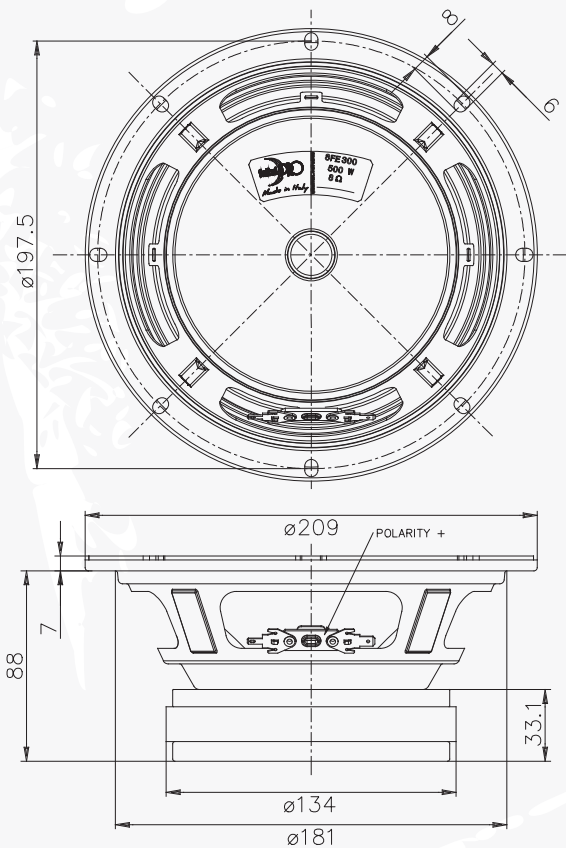
- NOTES:
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
 - (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth) / 2] + (magnetic\ gap\ depth / 3)$
 - (3) Maximum excursion before permanent damage
 - (4) Maximum power is defined as 3dB greater than nominal power
 - (5) Treated Polycotton

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	6.9 Ω
AES Power Handling (1)	250 W
Maximum Power Handling (4)	500 W
Sensitivity (1W/1m)	95 dB
Frequency Range	80÷5000 Hz
Voice Coil Diameter	52 mm (2 in)
Winding Material	Al
Former Material	Glass Fiber
Winding Depth	13.7 mm (0.54 in)
Magnetic Gap Depth	8 mm (0.31 in)
Flux Density	1.1 T
Magnet	Ferrite Ring
Basket Material	Steel
Demodulation	No
Cone Surround (5)	Triple Roll
NET Air Volume filled by Loudspeaker	0.7 dm³ (0.025 ft³)
Spider Profile	1x variable height waves

THIELE & SMALL PARAMETERS

Fs	70 Hz
Re	5.8 Ω
Qes	0.46
Qms	13.4
Qts	0.44
Vas	15.7 dm³ (0.55 ft³)
Sd	223 cm² (34.57 in²)
Xmax (2)	5.52 mm
Xdamage (3)	11.6 mm
Mms	22.9 g
Bl	11.3 N/A
Le	0.55 mH
Mmd	19.1 g
Cms	0.23 mm/N
Rms	0.8 kg/s
η _o (Eta Zero)	1.14 %
EBP	152 Hz



8PR210

8" - 200 W - 95 dB



THIELE & SMALL PARAMETERS

	8PR200	8PR210
Nominal Impedance	8 Ω	8 Ω
Minimum Impedance	6.4 Ω	7 Ω
AES Power Handling (1)	200 W	200 W
Maximum Power Handling (4)	400 W	400 W
Sensitivity (1W/1m)	95 dB	95 dB
Frequency Range	70:5000 Hz	70:5000 Hz
Voice Coil Diameter	52 mm (2 in)	52 mm (2 in)
Winding Material	Al	Al
Former Material	Glass Fiber	Glass Fiber
Winding Depth	19.3 mm (0.76 in)	16.5 mm (0.65 in)
Magnetic Gap Depth	9 mm (0.35 in)	8 mm (0.31 in)
Flux Density	1.15 T	1.3 T
Magnet	Neodymium Ring	Ferrite Ring
Basket Material	Aluminum	Aluminum
Demodulation	Aluminum Ring	Aluminum Ring
Cone Surround (5)	Triple Roll	Triple Roll
NET Air Volume filled by Loudspeaker	1 dm³ (0.035 ft³)	1.06 dm³ (0.037 ft³)
Spider Profile	1x variable height waves	

	8PR200	8PR210
Fs	58 Hz	65 Hz
Re	5.1 Ω	5.7 Ω
Qes	0.38	0.32
Qms	9.4	3.1
Qts	0.37	0.29
Vas	16.9 dm³ (0.60 ft³)	15.4 dm³ (0.55 ft³)
Sd	209 cm² (32.40 in²)	216 cm² (33.48 in²)
Xmax (2)	8.15 mm	6.92 mm
Xdamage (3)	13.5 mm	15.7 mm
Mms	27.2 g	25.3 g
Bl	11.5 N/A	13.5 N/A
Le	0.55 mH	0.46 mH
Mmd	23.8 g	21.7 g
Cms	0.28 mm/N	0.24 mm/N
Rms	1.1 kg/s	3.4 kg/s
η _o (Eta Zero)	0.84 %	1.27 %
EBP	153 Hz	203 Hz

NOTES:

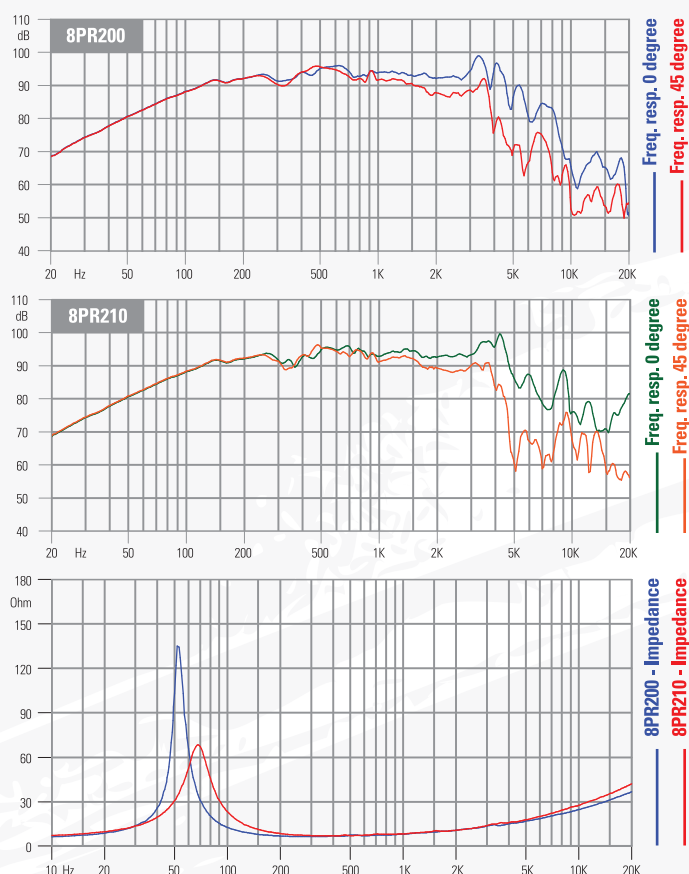
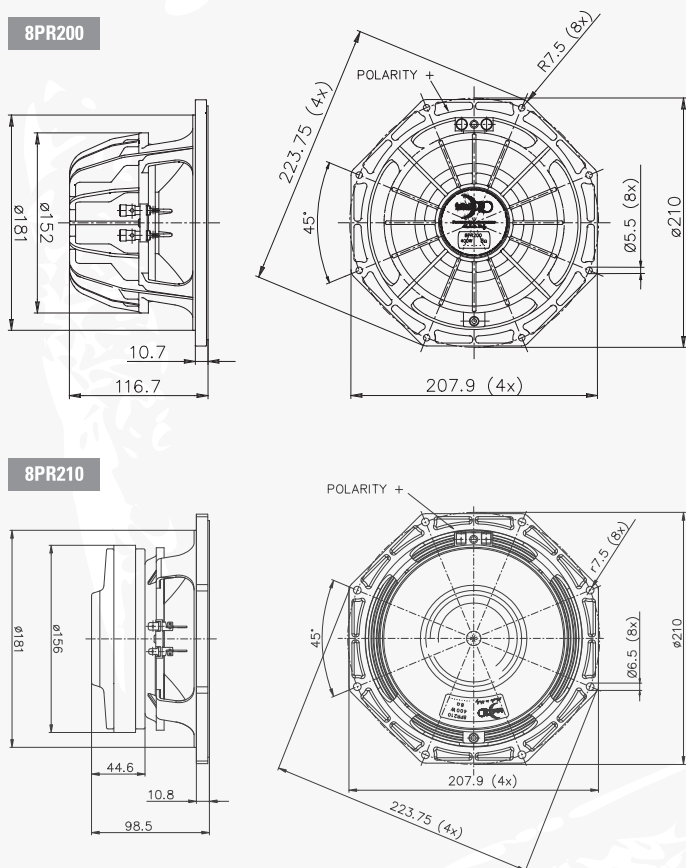
(1) 2 Hours Test According to AES 2-1984 Rev. 2003

$$(2) X_{max} = [(Winding \text{ Depth} - \text{magnetic gap depth})/2] + (\text{magnetic gap depth} / 3)$$

(3) Maximum excursion before permanent damage

(4) Maximum power is defined as 3dB greater than nominal power

(5) Treated Polycotton



8PR155

8" - 200 W - 97 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	200 mm (8 in)
Overall Diameter	223.7/207.9 mm (8.81/8.18 in)
Bolt Circle Diameter	210 mm (8.27 in)
Baffle Cutout Diameter	183 mm (7.20 in)
Depth	98.5 mm (3.88 in)
Flange and gasket Thickness	10.8 mm (0.43 in)
Net Weight	4.3 kg (9.5 lb)
Shipping Box	235 x 235 x 155 mm
(Single Carton Box)	(9.3 x 9.3 x 6.1 in)
Shipping Weight	4.6 kg (10.1 lb)

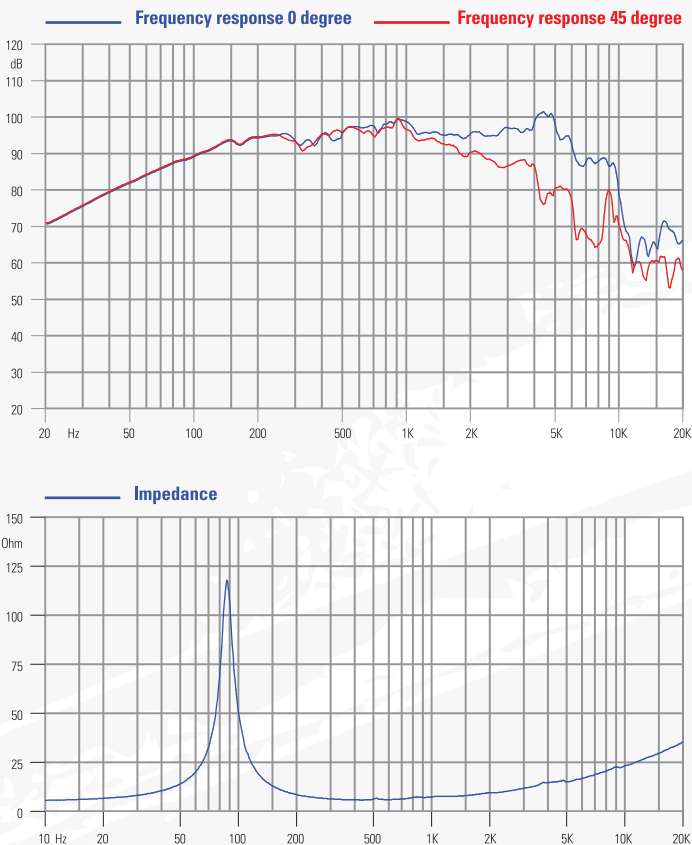
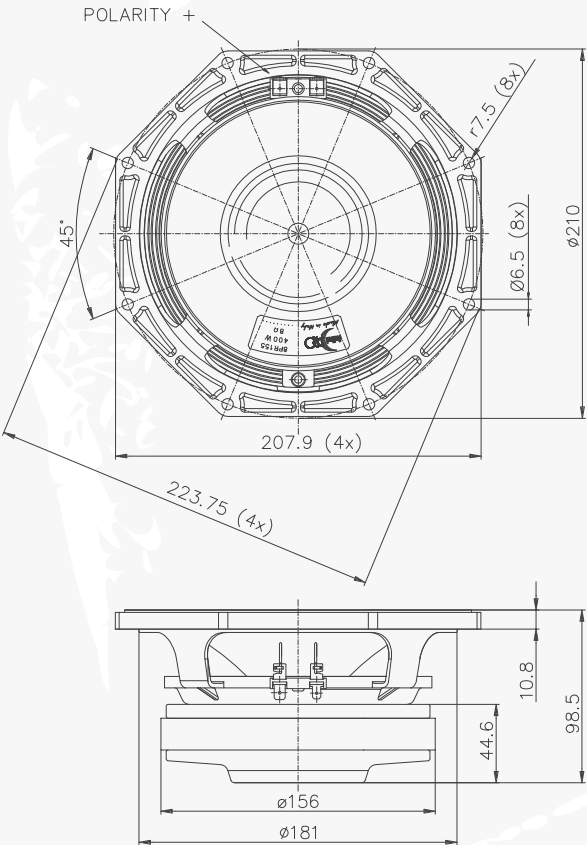
- NOTES:
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
 - (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
 - (3) Maximum excursion before permanent damage
 - (4) Maximum power is defined as 3dB greater than nominal power
 - (5) Treated Polycotton

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	6.3 Ω
AES Power Handling (1)	200 W
Maximum Power Handling (4)	400 W
Sensitivity (1W/1m)	97 dB
Frequency Range	80-6300 Hz
Voice Coil Diameter	52 mm (2 in)
Winding Material	Al
Former Material	Glass Fiber
Winding Depth	9.8 mm (0.39 in)
Magnetic Gap Depth	8 mm (0.31 in)
Flux Density	1.3 T
Magnet	Ferrite Ring
Basket Material	Aluminum
Demodulation	Aluminum Ring
Cone Surround (5)	Triple Roll
NET Air Volume filled by Loudspeaker	1.06 dm³ (0.037 ft³)
Spider Profile	1x variable height waves

THIELE & SMALL PARAMETERS

Fs	85 Hz
Re	5.3 Ω
Qes	0.39
Qms	8.8
Qts	0.37
Vas	9.4 dm³ (0.33 ft³)
Sd	217 cm² (33.67 in²)
Xmax (2)	3.57 mm
Xdamage (3)	10.65 mm
Mms	24.5 g
Bl	13.4 N/A
Le	0.41 mH
Mmd	20.9 g
Cms	0.14 mm/N
Rms	1.5 kg/s
η _o (Eta Zero)	1.45 %
EBP	218 Hz



8RS250

8" - 200 W - 93 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	200 mm (8 in)
Overall Diameter	223.75/207.9 mm (8.81/8.18 in)
Bolt Circle Diameter	210 mm (8.27 in)
Baffle Cutout Diameter	183 mm (7.20 in)
Depth	108 mm (4.25 in)
Flange and gasket Thickness	15.3 mm (0.60 in)
Net Weight	4.4 kg (9.7 lb)
Shipping Box	235 x 235 x 155 mm
(Single Carton Box)	(9.3 x 9.3 x 6.1 in)
Shipping Weight	4.7 kg (10.4 lb)

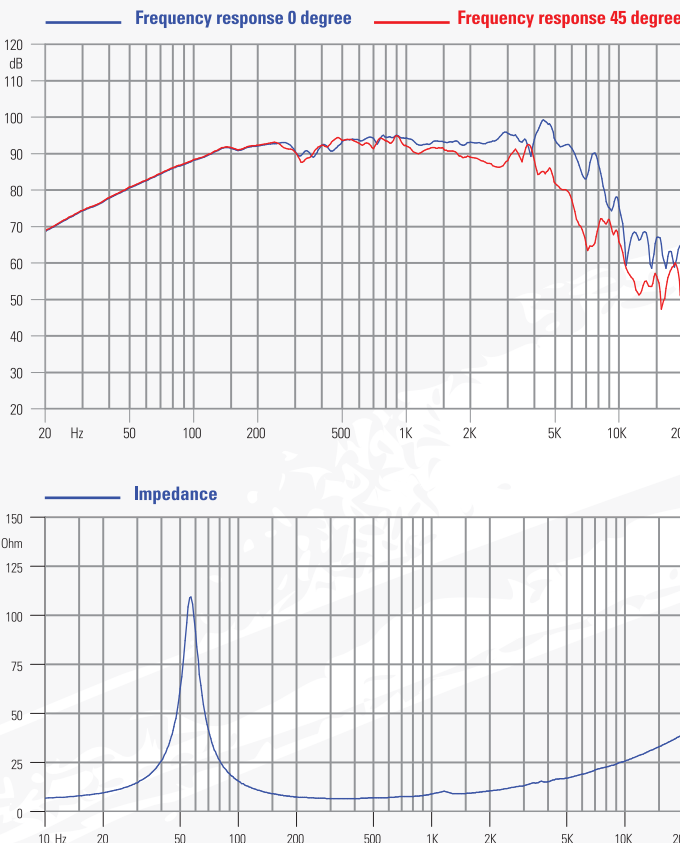
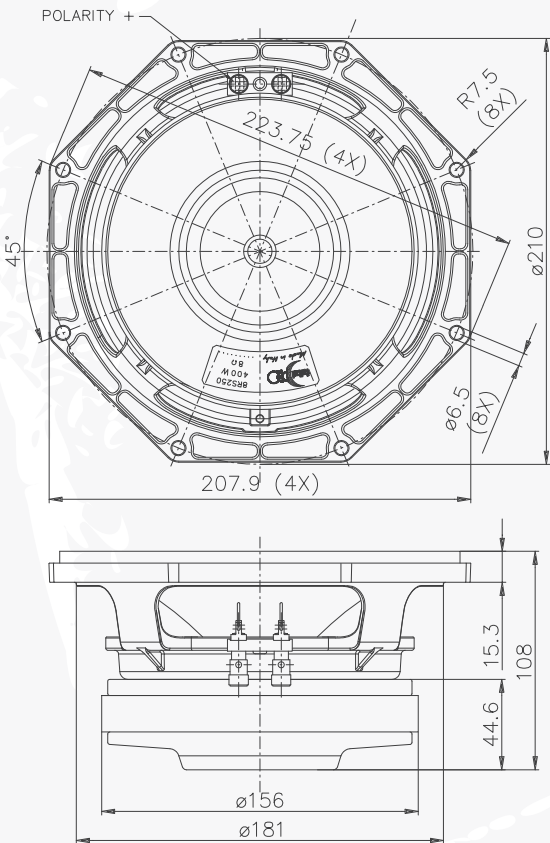
- NOTES:
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
 - (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
 - (3) Maximum excursion before permanent damage
 - (4) Maximum power is defined as 3dB greater than nominal power
 - (5) NBR (Rubber)

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	7 Ω
AES Power Handling (1)	200 W
Maximum Power Handling (4)	400 W
Sensitivity (1W/1m)	93 dB
Frequency Range	60-6300 Hz
Voice Coil Diameter	52 mm (2 in)
Winding Material	Al
Former Material	Glass Fiber
Winding Depth	16.5 mm (0.65 in)
Magnetic Gap Depth	8 mm (0.31 in)
Flux Density	1.3 T
Magnet	Ferrite Ring
Basket Material	Aluminum
Demodulation	Aluminum Ring
Cone Surround (5)	Half Roll
NET Air Volume filled by Loudspeaker	1.17 dm³ (0.041 ft³)
Spider Profile	1x variable height waves

THIELE & SMALL PARAMETERS

Fs	56 Hz
Re	5.7 Ω
Qes	0.34
Qms	5.7
Qts	0.32
Vas	18.3 dm³ (0.65 ft³)
Sd	223 cm² (34.57 in²)
Xmax (2)	6.92 mm
Xdamage (3)	15.7 mm
Mms	30.6 g
Bl	13.5 N/A
Le	0.35 mH
Mmd	26.8 g
Cms	0.26 mm/N
Rms	1.9 kg/s
η _o (Eta Zero)	0.93 %
EBP	165 Hz



8FE400

8" - 200 W - 96 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	200 mm (8 in)
Overall Diameter	209 mm (8.23 in)
Bolt Circle Diameter	197 mm (7.76 in)
Baffle Cutout Diameter	183 mm (7.20 in)
Depth	96 mm (3.78 in)
Flange and gasket Thickness	7 mm (0.28 in)
Net Weight	2.78 kg (6.1 lb)
Shipping Box	227 x 224 x 113 mm
(Single Carton Box)	(8.93 x 8.81 x 4.44 in)
Shipping Weight	2.95 kg (6.5 lb)

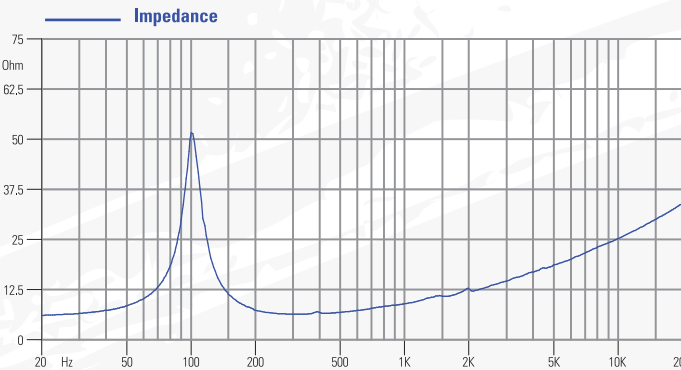
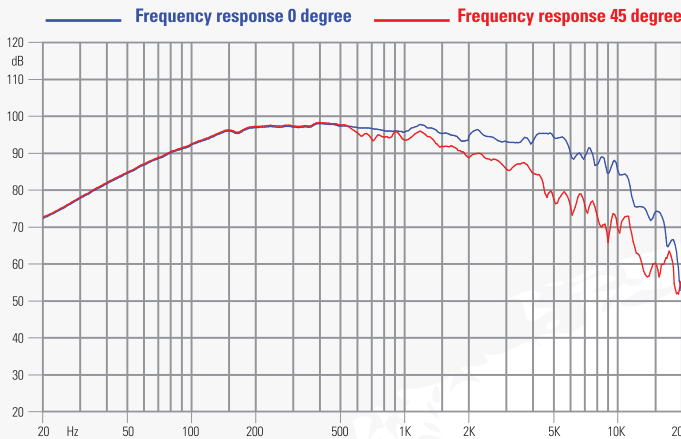
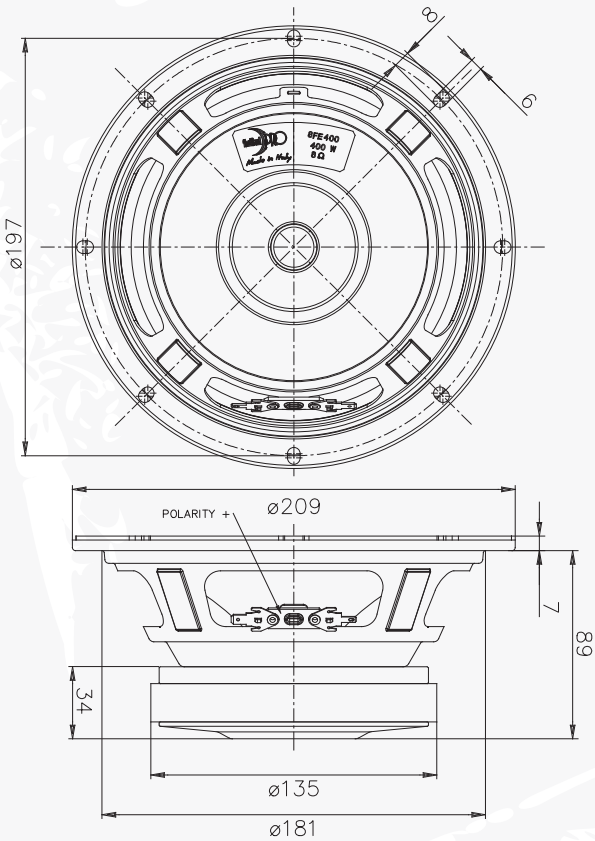
- NOTES:
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
 - (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
 - (3) Maximum excursion before permanent damage
 - (4) Maximum power is defined as 3dB greater than nominal power
 - (5) Treated Polycotton

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	6.2 Ω
AES Power Handling (1)	200 W
Maximum Power Handling (4)	400 W
Sensitivity (1W/1m)	96 dB
Frequency Range	100÷6000 Hz
Voice Coil Diameter	44 mm (1.73 in)
Winding Material	Al
Former Material	Al
Winding Depth	12.2 mm (0.48 in)
Magnetic Gap Depth	8 mm (0.31 in)
Flux Density	1.10 T
Magnet	Ferrite Ring
Basket Material	Steel
Demodulation	No
Cone Surround (5)	Triple Roll
NET Air Volume filled by Loudspeaker	0.9 dm³ (0.032 ft³)
Spider Profile	1x constant height waves

THIELE & SMALL PARAMETERS

Fs	100 Hz
Re	5 Ω
Qes	0.58
Qms	5.3
Qts	0.53
Vas	9.4 dm³ (0.33 ft³)
Sd	233 cm² (36.12 in²)
Xmax (2)	4.77 mm
Xdamage (3)	15.5 mm
Mms	20.5 g
Bl	10.5 N/A
Le	0.44 mH
Mmd	16.5 g
Cms	0.12 mm/N
Rms	2.4 kg/s
η _o (Eta Zero)	1.56 %
EBP	171 Hz



W8N8-150

8" - 150 W - 94 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	200 mm (8 in)
Overall Diameter	223.75/207.9 mm (8.81/8.18 in)
Bolt Circle Diameter	210 mm (8.27 in)
Baffle Cutout Diameter	183 mm (7.20 in)
Depth	116.7 mm (4.59 in)
Flange and gasket Thickness	10.7 mm (0.42 in)
Net Weight	1.7 kg (3.7 lb)
Shipping Box	235 x 235 x 155 mm
(Single Carton Box)	(9.3 x 9.3 x 6.1 in)
Shipping Weight	2.6 kg (5.7 lb)

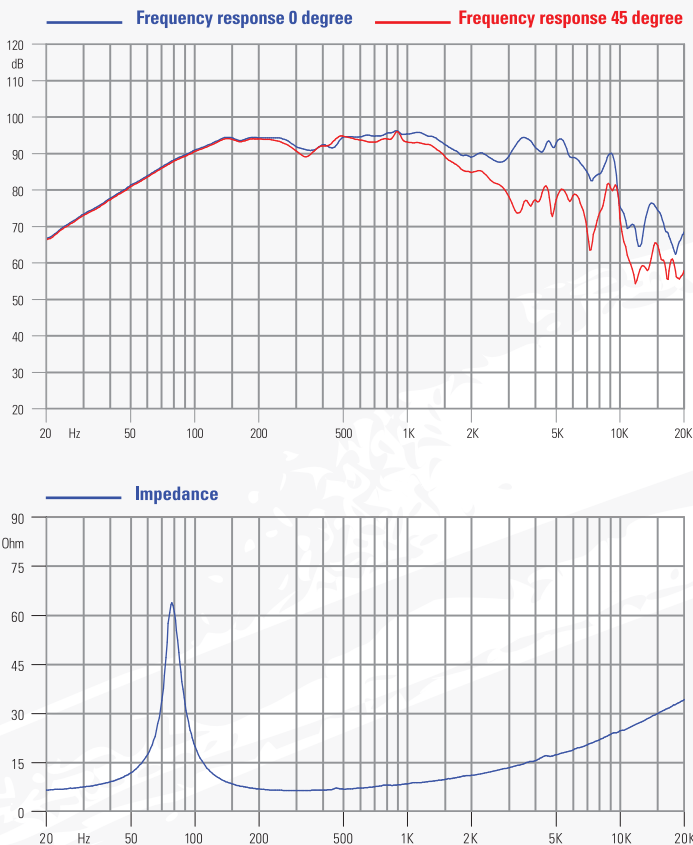
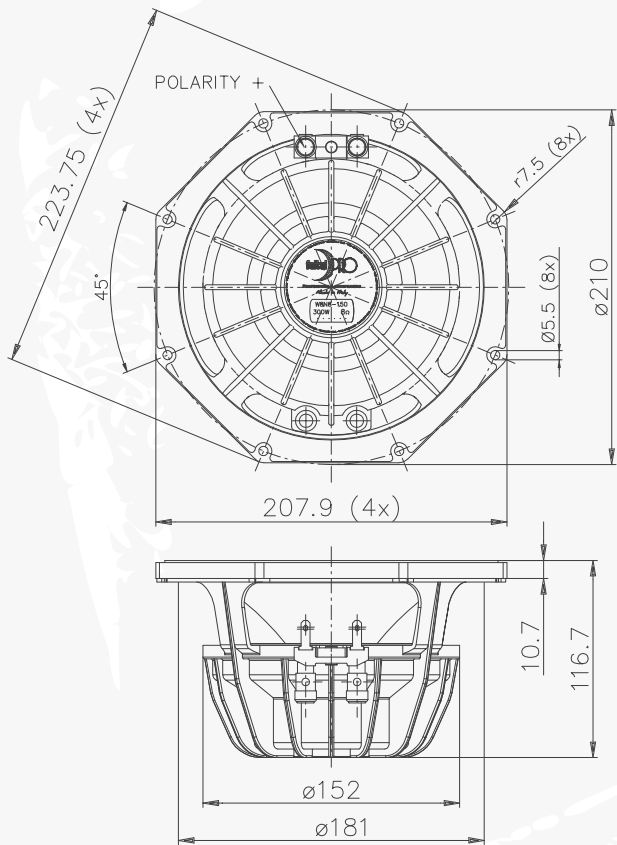
- NOTES:
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
 - (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
 - (3) Maximum excursion before permanent damage
 - (4) Maximum power is defined as 3dB greater than nominal power
 - (5) Treated Polycotton

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	6.5 Ω
AES Power Handling (1)	150 W
Maximum Power Handling (4)	300 W
Sensitivity (1W/1m)	94 dB
Frequency Range	80-6300 Hz
Voice Coil Diameter	52 mm (2 in)
Winding Material	Al
Former Material	Glass Fiber
Winding Depth	13.7 mm (0.54 in)
Magnetic Gap Depth	8 mm (0.31 in)
Flux Density	1 T
Magnet	Neodymium Slug
Basket Material	Aluminum
Demodulation	No
Cone Surround (5)	M-Roll
NET Air Volume filled by Loudspeaker	1 dm³ (0.035 ft³)
Spider Profile	1x variable height waves

THIELE & SMALL PARAMETERS

Fs	76 Hz
Re	5.8 Ω
Qes	0.59
Qms	4.7
Qts	0.52
Vas	14.4 dm³ (0.51 ft³)
Sd	222 cm² (34.41 in²)
Xmax (2)	5.52 mm
Xdamage (3)	12 mm
Mms	20.9 g
Bl	9.9 N/A
Le	0.55 mH
Mmd	17.2 g
Cms	0.21 mm/N
Rms	2.1 kg/s
η _e (Eta Zero)	1.04 %
EBP	129 Hz



8FE200

8" - 130 W - 95 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	200 mm (8 in)
Overall Diameter	209.2 mm (8.24 in)
Bolt Circle Diameter	196.9 mm (7.75 in)
Baffle Cutout Diameter	178 mm (7.01 in)
Depth	89 mm (3.50 in)
Flange and gasket Thickness	8 mm (0.31 in)
Net Weight	2.2 kg (4.7 lb)
Shipping Box	227 x 224 x 113 mm
(Single Carton Box)	(8.9 x 8.8 x 4.4 in)
Shipping Weight	3 kg (6.6 lb)

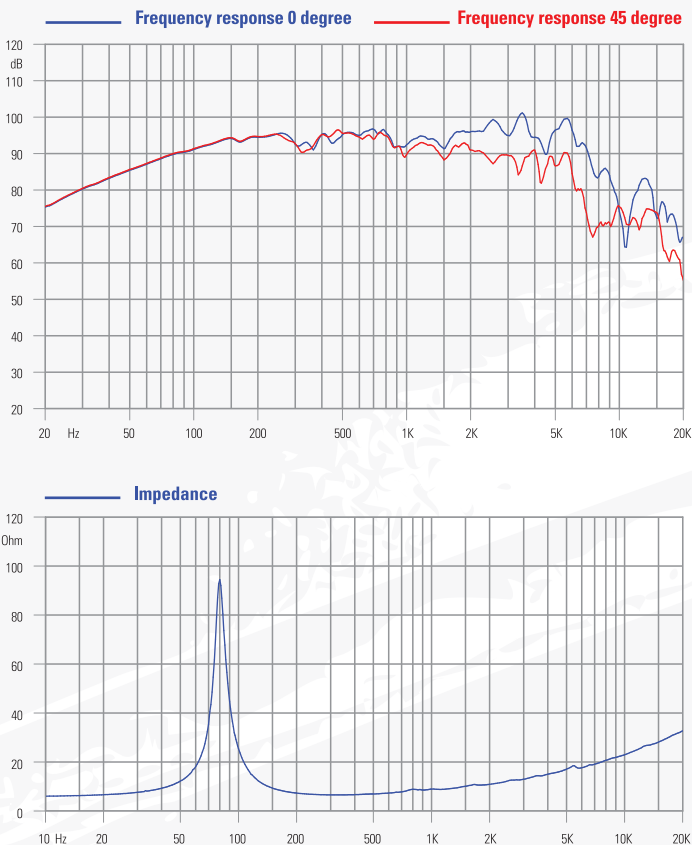
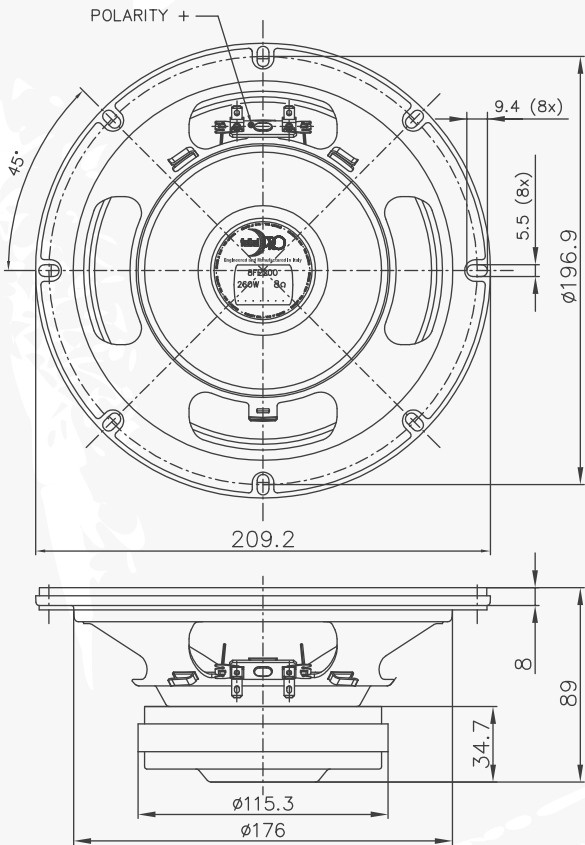
- NOTES:
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
 - (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
 - (3) Maximum excursion before permanent damage
 - (4) Maximum power is defined as 3dB greater than nominal power
 - (5) Treated Polycotton

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	6.8 Ω
AES Power Handling (1)	130 W
Maximum Power Handling (4)	260 W
Sensitivity (1W/1m)	95 dB
Frequency Range	60÷5000 Hz
Voice Coil Diameter	37 mm (1.46 in)
Winding Material	Al
Former Material	Kapton
Winding Depth	12 mm (0.47 in)
Magnetic Gap Depth	8 mm (0.31 in)
Flux Density	1 T
Magnet	Ferrite Ring
Basket Material	Steel
Demodulation	No
Cone Surround (5)	Triple Roll
NET Air Volume filled by Loudspeaker	0.6 dm³ (0.021 ft³)
Spider Profile	1x constant height waves

THIELE & SMALL PARAMETERS

Fs	80 Hz
Re	5.9 Ω
Qes	0.66
Qms	13.0
Qts	0.63
Vas	16.1 dm³ (0.57 ft³)
Sd	209 cm² (32.44 in²)
Xmax (2)	4.67 mm
Xdamage (3)	10.4 mm
Mms	15.0 g
Bl	8.2 N/A
Le	0.44 mH
Mmd	11.6 g
Cms	0.26 mm/N
Rms	0.6 kg/s
η _o (Eta Zero)	1.21 %
EBP	121 Hz



6FE400

6" - 200 W - 94 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	160 mm (6 in)
Overall Diameter	166.5 mm (6.56 in)
Bolt Circle Diameter	155 mm (6.10 in)
Baffle Cutout Diameter	146 mm (5.75 in)
Depth	84 mm (3.31 in)
Flange and gasket Thickness	7 mm (0.28 in)
Net Weight	2.7 kg (6.0 lb)
Shipping Box	190 x 185 x 103 mm
(Single Carton Box)	(7.5 x 7.3 x 4.1 in)
Shipping Weight	2.9 kg (6.4 lb)

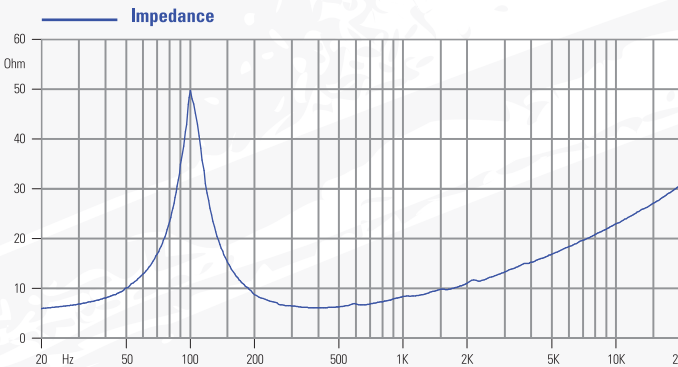
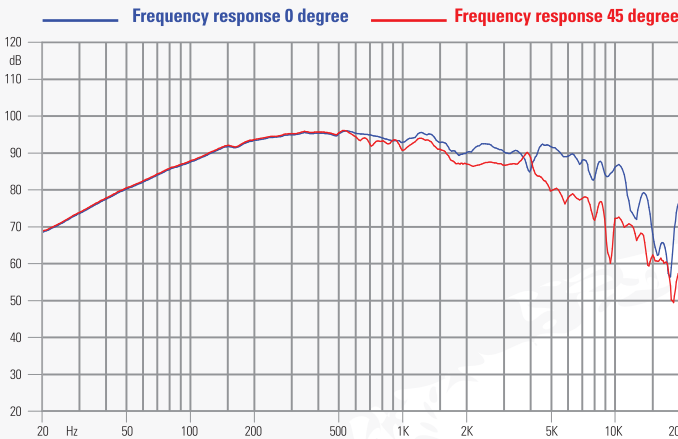
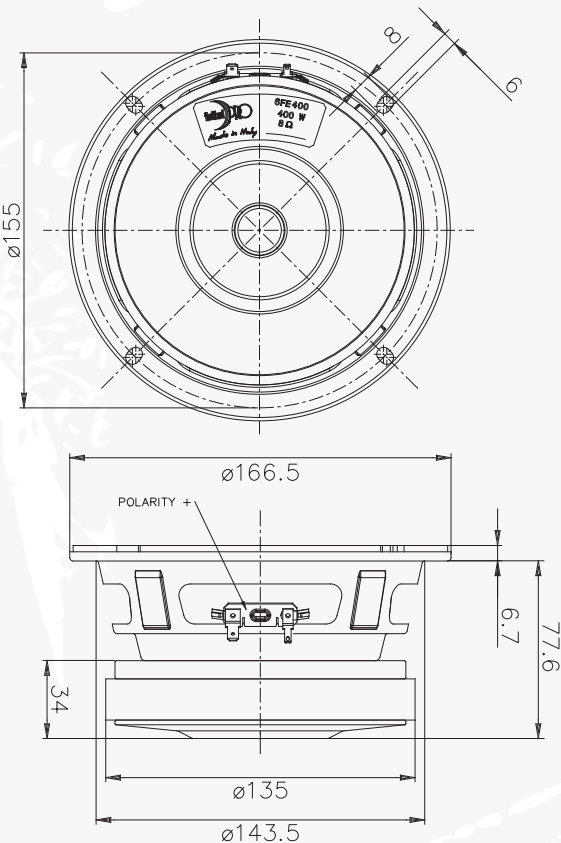
- NOTES:
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
 - (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
 - (3) Maximum excursion before permanent damage
 - (4) Maximum power is defined as 3dB greater than nominal power
 - (5) Treated Polycotton

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	6.2 Ω
AES Power Handling (1)	200 W
Maximum Power Handling (4)	400 W
Sensitivity (1W/1m)	94 dB
Frequency Range	100÷7000 Hz
Voice Coil Diameter	44 mm (1.73 in)
Winding Material	Al
Former Material	Al
Winding Depth	12.2 mm (0.48 in)
Magnetic Gap Depth	8 mm (0.31 in)
Flux Density	1.10 T
Magnet	Ferrite Ring
Basket Material	Steel
Demodulation	No
Cone Surround (5)	Triple-Roll
NET Air Volume filled by Loudspeaker	0.7 dm³ (0.025 ft³)
Spider Profile	1x constant height waves

THIELE & SMALL PARAMETERS

Fs	100 Hz
Re	5.0 Ω
Qes	0.40
Qms	3.7
Qts	0.36
Vas	5.0 dm³ (0.18 ft³)
Sd	141 cm² (21.86 in²)
Xmax (2)	4.77 mm
Xdamage (3)	15.5 mm
Mms	14.0 g
Bl	10.5 N/A
Le	0.42 mH
Mmd	12.1 g
Cms	0.18 mm/N
Rms	2.4 kg/s
η _o (Eta Zero)	1.22 %
EBP	251 Hz



6FE300

6" - 175 W - 94 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	160 mm (6 in)
Overall Diameter	166.5 mm (6.56 in)
Bolt Circle Diameter	155 mm (6.10 in)
Baffle Cutout Diameter	146 mm (5.75 in)
Depth	81 mm (3.19 in)
Flange and gasket Thickness	7 mm (0.28 in)
Net Weight	2.8 kg (6.2 lb)
Shipping Box	190 x 185 x 103 mm
(Single Carton Box)	(7.5 x 7.3 x 4.1 in)
Shipping Weight	3 kg (6.6 lb)

NOTES:

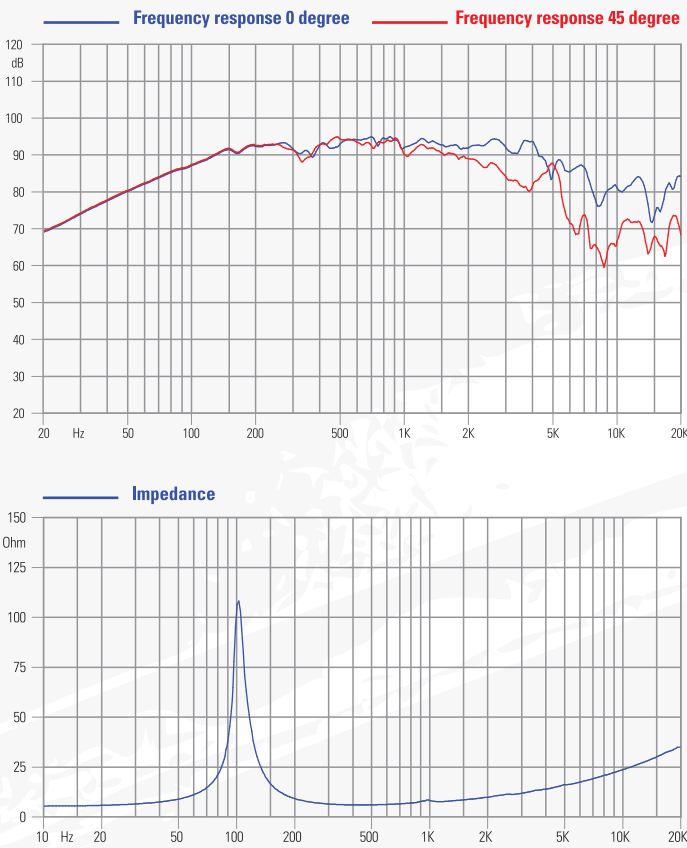
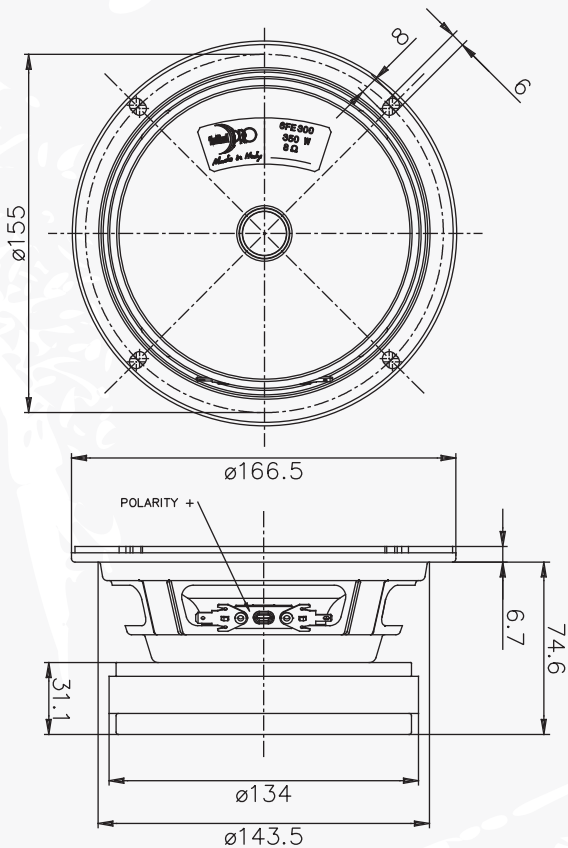
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
- (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
- (3) Maximum excursion before permanent damage
- (4) Maximum power is defined as 3dB greater than nominal power
- (5) Treated Polycotton

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	6.5 Ω
AES Power Handling (1)	175 W
Maximum Power Handling (4)	350 W
Sensitivity (1W/1m)	94 dB
Frequency Range	90÷4000 Hz
Voice Coil Diameter	52 mm (2.05 in)
Winding Material	Al
Former Material	Glass Fiber
Winding Depth	9.8 mm (0.39 in)
Magnetic Gap Depth	6 mm (0.24 in)
Flux Density	1.15 T
Magnet	Ferrite Ring
Basket Material	Steel
Demodulation	No
Cone Surround (5)	M-Roll
NET Air Volume filled by Loudspeaker	0.6 dm³ (0.021 ft³)
Spider Profile	1x constant height waves

THIELE & SMALL PARAMETERS

Fs	100 Hz
Re	5.3 Ω
Qes	0.48
Qms	10.5
Qts	0.46
Vas	4.7 dm³ (0.17 ft³)
Sd	138 cm² (21.39 in²)
Xmax (2)	3.90 mm
Xdamage (3)	13.1 mm
Mms	14.2 g
Bl	10 N/A
Le	0.4 mH
Mmd	12.4 g
Cms	0.18 mm/N
Rms	0.8 kg/s
η _o (Eta Zero)	0.97 %
EBP	208 Hz



6PR150

6" - 150 W - 97 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	160 mm (6 in)
Overall Diameter	186.5/162 mm (7.34/6.37 in)
Bolt Circle Diameter	172 mm (6.77 in)
Baffle Cutout Diameter	147 mm (5.78 in)
Depth	89 mm (3.50 in)
Flange and gasket Thickness	9.3 mm (0.37 in)
Net Weight	1.4 kg (3.1 lb)
Shipping Box	195 x 195 x 141 mm
(Single Carton Box)	(7.7 x 7.7 x 5.6 in)
Shipping Weight	1.6 kg (3.5 lb)

NOTES:

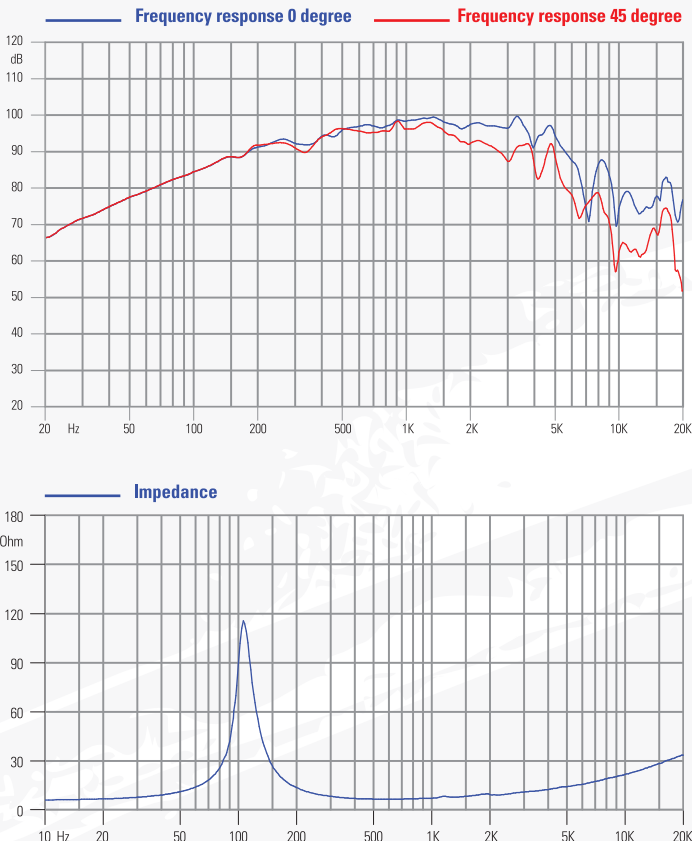
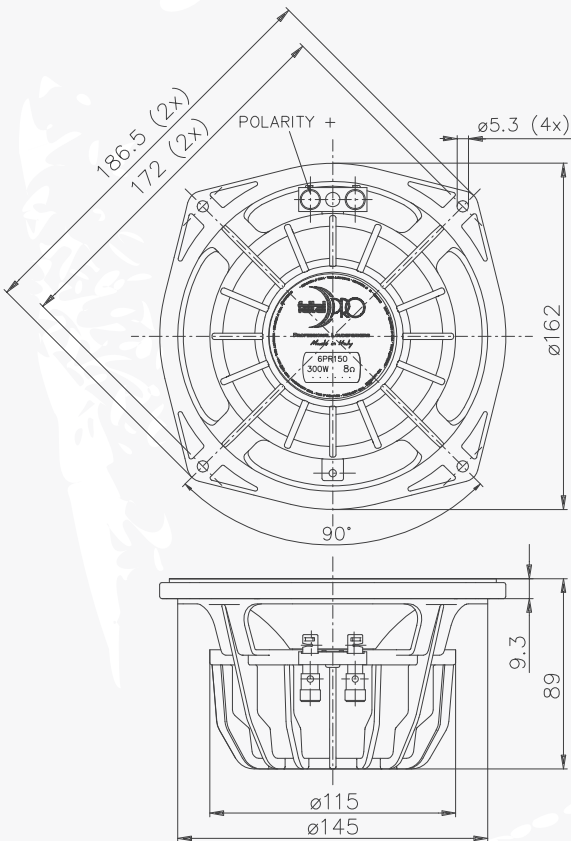
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
- (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
- (3) Maximum excursion before permanent damage
- (4) Maximum power is defined as 3dB greater than nominal power
- (5) Treated Polycotton

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	6.6 Ω
AES Power Handling (1)	150 W
Maximum Power Handling (4)	300 W
Sensitivity (1W/1m)	97 dB
Frequency Range	100÷5000 Hz
Voice Coil Diameter	52 mm (2 in)
Winding Material	Cu
Former Material	Glass Fiber
Winding Depth	7.3 mm (0.29 in)
Magnetic Gap Depth	6 mm (0.24 in)
Flux Density	1.35 T
Magnet	Neodymium Ring
Basket Material	Aluminum
Demodulation	Aluminum Ring
Cone Surround (5)	Half Roll
NET Air Volume filled by Loudspeaker	0.6 dm³ (0.021 ft³)
Spider Profile	1x constant height waves

THIELE & SMALL PARAMETERS

Fs	100 Hz
Re	5.5 Ω
Qes	0.35
Qms	8.8
Qts	0.34
Vas	4.9 dm³ (0.17 ft³)
Sd	137 cm² (21.28 in²)
Xmax (2)	2.65 mm
Xdamage (3)	11.6 mm
Mms	13.5 g
Bl	11.6 N/A
Le	0.28 mH
Mmd	11.7 g
Cms	0.19 mm/N
Rms	1.0 kg/s
η₀ (Eta Zero)	1.38 %
EBP	286 Hz



6RS140

6" - 200 W - 93 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	160 mm (6 in)
Overall Diameter	186.5/162 mm (7.34/6.37 in)
Bolt Circle Diameter	172 mm (6.77 in)
Baffle Cutout Diameter	147 mm (5.79 in)
Depth	76 mm (2.99 in)
Flange and gasket Thickness	11 mm (0.43 in)
Net Weight	1.2 kg (2.6 lb)
Shipping Box	190 x 185 x 103 mm
(Single Carton Box)	(7.5 x 7.3 x 4.1 in)
Shipping Weight	1.3 kg (2.9 lb)

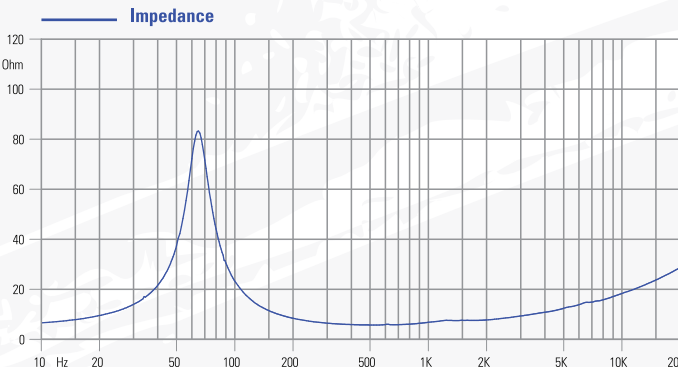
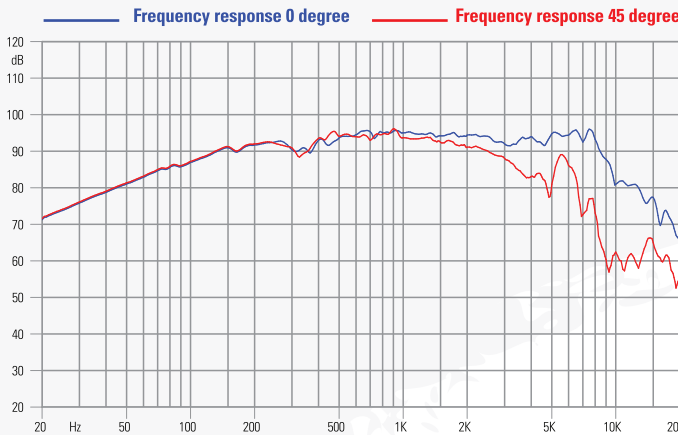
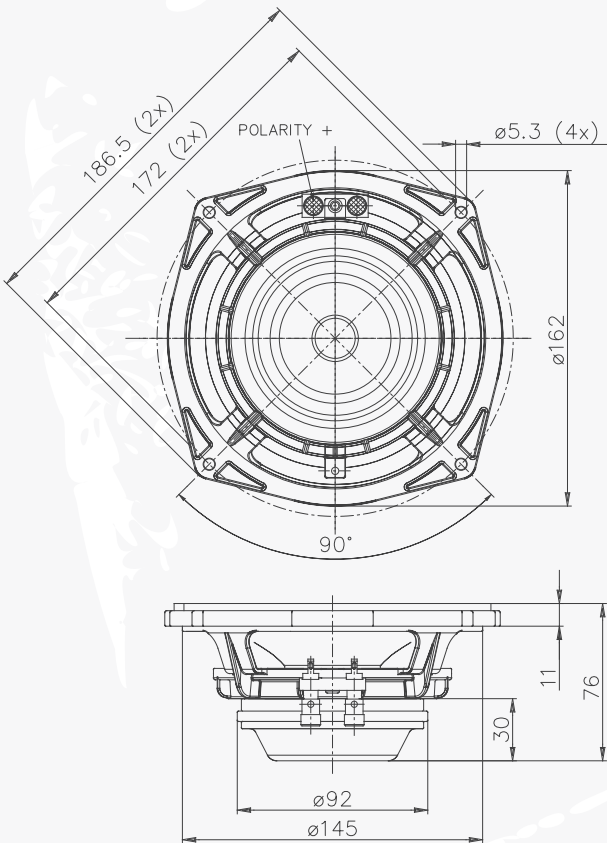
- NOTES:
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
 - (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
 - (3) Maximum excursion before permanent damage
 - (4) Maximum power is defined as 3dB greater than nominal power
 - (5) NBR (Rubber)

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	6.3 Ω
AES Power Handling (1)	200 W
Maximum Power Handling (4)	400 W
Sensitivity (1W/1m)	93 dB
Frequency Range	60÷6000 Hz
Voice Coil Diameter	44 mm (1.73 in)
Winding Material	Al
Former Material	Glass Fiber
Winding Depth	13.2 mm (0.52 in)
Magnetic Gap Depth	6 mm (0.24 in)
Flux Density	1.5 T
Magnet	Neodymium Ring
Basket Material	Aluminum
Demodulation	Aluminum Ring
Cone Surround (5)	Half Roll
NET Air Volume filled by Loudspeaker	0.37 dm³ (0.013 ft³)
Spider Profile	1x variable height waves

THIELE & SMALL PARAMETERS

Fs	65 Hz
Re	5.3 Ω
Qes	0.28
Qms	5.8
Qts	0.27
Vas	9.3 dm³ (0.33 ft³)
Sd	133 cm² (20.62 in²)
Xmax (2)	5.60 mm
Xdamage (3)	11.6 mm
Mms	16.0 g
Bl	11 N/A
Le	0.28 mH
Mmd	14.3 g
Cms	0.37 mm/N
Rms	1.1 kg/s
η₀ (Eta Zero)	0.86 %
EBP	232 Hz



6PR160

6" - 120 W - 95 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	160 mm (6 in)
Overall Diameter	186.5/162 mm (7.34/6.37 in)
Bolt Circle Diameter	172 mm (6.77 in)
Baffle Cutout Diameter	147 mm (5.79 in)
Depth	73 mm (2.87 in)
Flange and gasket Thickness	9 mm (0.35 in)
Net Weight	1 kg (2.2 lb)
Shipping Box	190 x 185 x 103 mm
(Single Carton Box)	(7.5 x 7.3 x 4.1 in)
Shipping Weight	1.1 kg (2.4 lb)

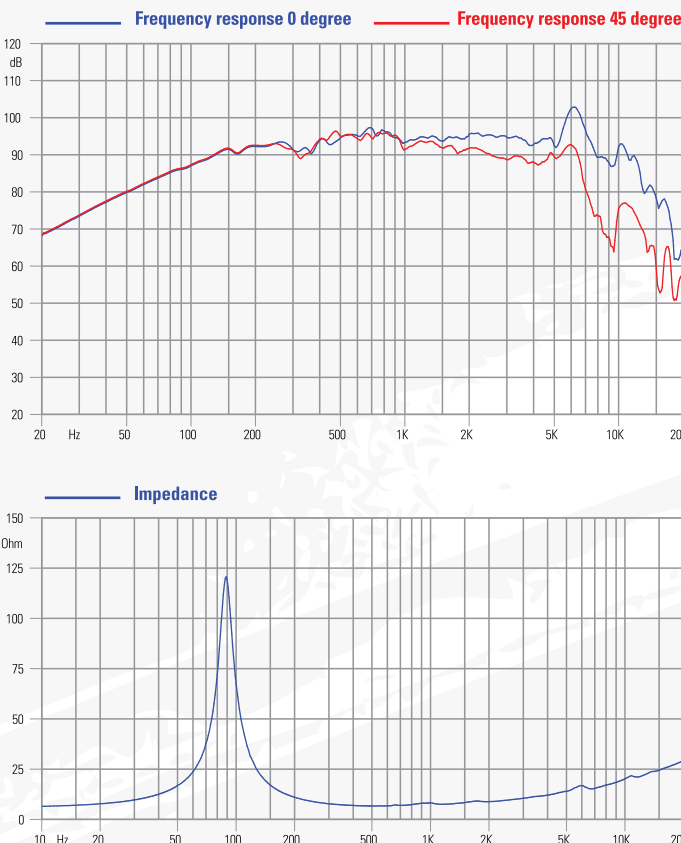
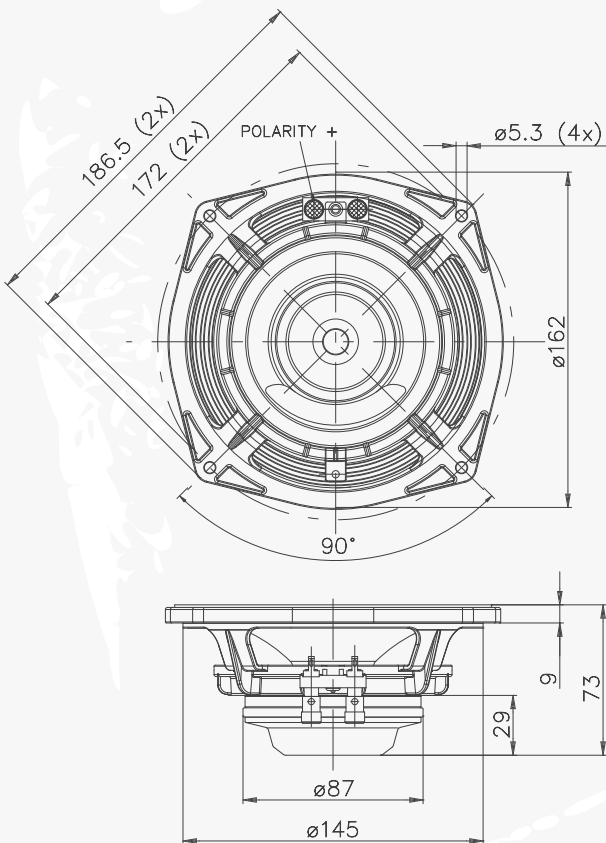
- NOTES:**
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
 - (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
 - (3) Maximum excursion before permanent damage
 - (4) Maximum power is defined as 3dB greater than nominal power
 - (5) Treated Polycotton

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	7 Ω
AES Power Handling (1)	120 W
Maximum Power Handling (4)	240 W
Sensitivity (1W/1m)	95 dB
Frequency Range	80÷8000 Hz
Voice Coil Diameter	37 mm (1.46 in)
Winding Material	Al
Former Material	Glass Fiber
Winding Depth	12 mm (0.47 in)
Magnetic Gap Depth	6 mm (0.24 in)
Flux Density	1.6 T
Magnet	Neodymium Ring
Basket Material	Aluminum
Demodulation	Aluminum Ring
Cone Surround (5)	Triple Roll
NET Air Volume filled by Loudspeaker	0.37 dm³ (0.013 ft³)
Spider Profile	1x constant height waves

THIELE & SMALL PARAMETERS

Fs	90 Hz
Re	5.9 Ω
Qes	0.35
Qms	6.6
Qts	0.33
Vas	5.9 dm³ (0.21 ft³)
Sd	130 cm² (20.10 in²)
Xmax (2)	5.00 mm
Xdamage (3)	11.6 mm
Mms	12.5 g
Bl	11 N/A
Le	0.28 mH
Mmd	10.8 g
Cms	0.25 mm/N
Rms	1.1 kg/s
η _o (Eta Zero)	1.21 %
EBP	261 Hz



6PR122

6" - 120 W - 97 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	160 mm (6 in)
Overall Diameter	186.5/162 mm (7.34/6.37 in)
Bolt Circle Diameter	172 mm (6.77 in)
Baffle Cutout Diameter	147 mm (5.79 in)
Depth	78 mm (3.07 in)
Flange and gasket Thickness	9.5 mm (0.37 in)
Net Weight	1.3 kg (2.9 lb)
Shipping Box	190 x 185 x 103 mm
(Single Carton Box)	(7.5 x 7.3 x 4.1 in)
Shipping Weight	1.5 kg (3.3 lb)

NOTES:

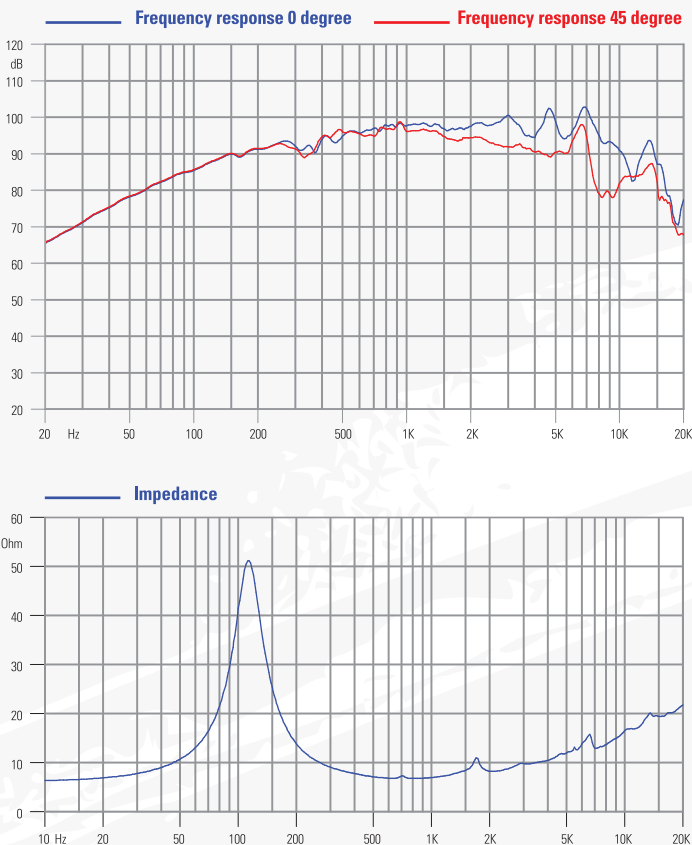
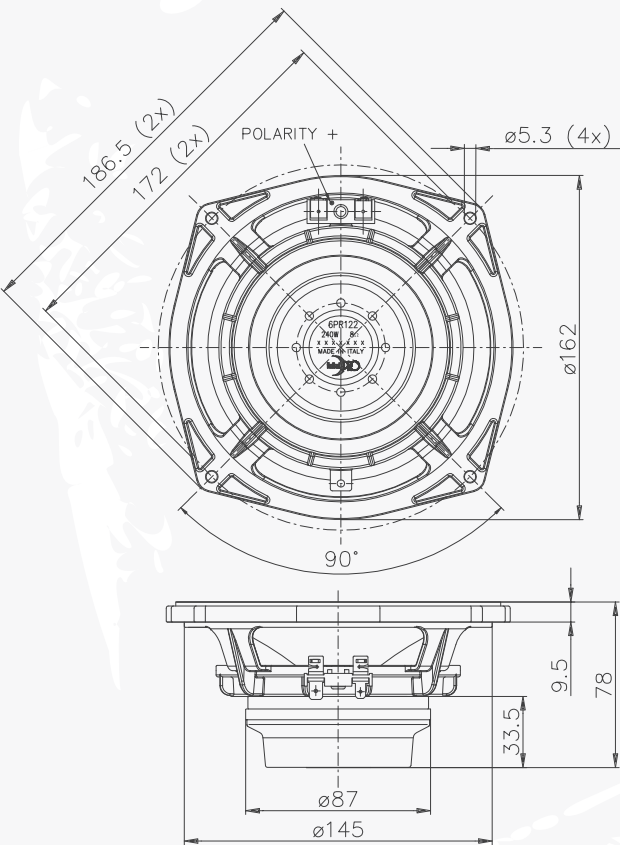
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
- (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
- (3) Maximum excursion before permanent damage
- (4) Maximum power is defined as 3dB greater than nominal power
- (5) Treated Polycotton

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	6.8 Ω
AES Power Handling (1)	120 W
Maximum Power Handling (4)	240 W
Sensitivity (1W/1m)	97 dB
Frequency Range	125÷10000 Hz
Voice Coil Diameter	37 mm (1.46 in)
Winding Material	Al
Former Material	Kapton
Winding Depth	7.5 mm (0.30 in)
Magnetic Gap Depth	6 mm (0.24 in)
Flux Density	1.6 T
Magnet	Neodymium Ring
Basket Material	Aluminum
Demodulation	Aluminum Ring
Cone Surround (5)	Half Roll
NET Air Volume filled by Loudspeaker	0.38 dm³ (0.013 ft³)
Spider Profile	1x constant height waves

THIELE & SMALL PARAMETERS

Fs	110 Hz
Re	6 Ω
Qes	0.44
Qms	3.3
Qts	0.39
Vas	4.7 dm³ (0.17 ft³)
Sd	137.3 cm² (21.28 in²)
Xmax (2)	2.75 mm
Xdamage (3)	11.6 mm
Mms	11.7 g
Bl	10.5 N/A
Le	0.15 mH
Mmd	9.9 g
Cms	0.18 mm/N
Rms	2.4 kg/s
η₀ (Eta Zero)	1.38 %
EBP	250 Hz



6PR110

6" - 150 W - 96 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	160 mm (6 in)
Overall Diameter	186.5/162 mm (7.34/6.37 in)
Bolt Circle Diameter	172 mm (6.77 in)
Baffle Cutout Diameter	147 mm (5.79 in)
Depth	80 mm (3.15 in)
Flange and gasket Thickness	9.5 mm (0.37 in)
Net Weight	2.2 kg (4.9 lb)
Shipping Box	190 x 185 x 103 mm
(Single Carton Box)	(7.5 x 7.3 x 4.1 in)
Shipping Weight	2.4 kg (5.3 lb)

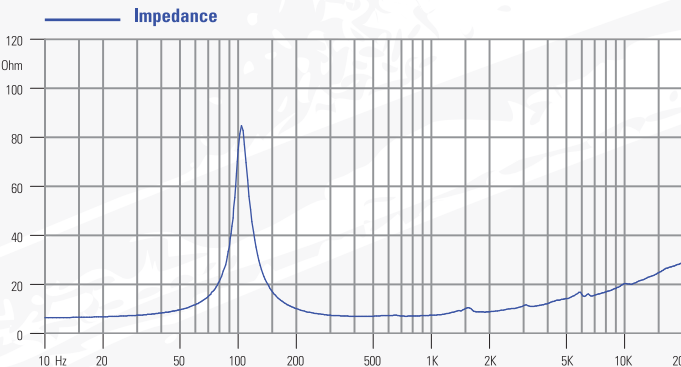
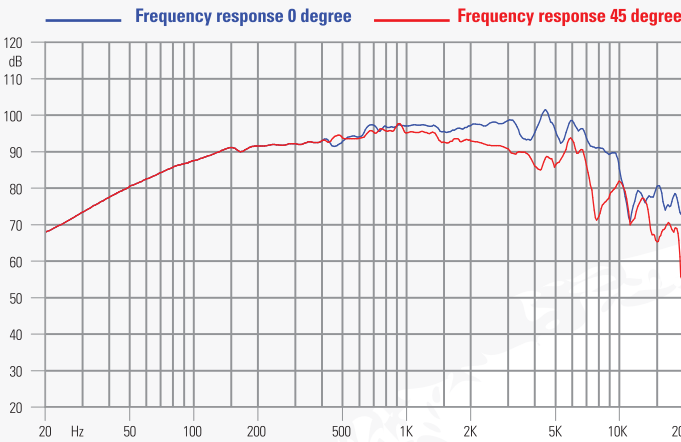
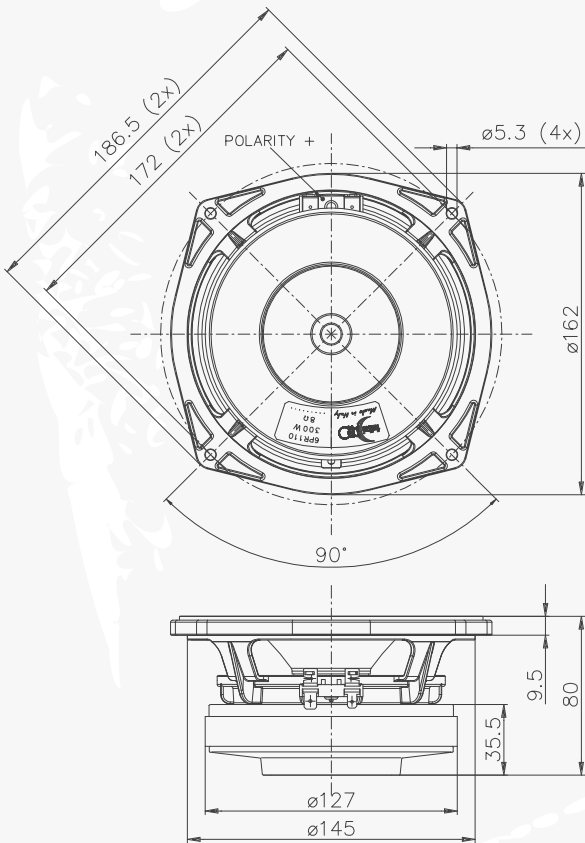
- NOTES:
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
 - (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
 - (3) Maximum excursion before permanent damage
 - (4) Maximum power is defined as 3dB greater than nominal power
 - (5) Treated Polycotton

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	7 Ω
AES Power Handling (1)	150 W
Maximum Power Handling (4)	300 W
Sensitivity (1W/1m)	96 dB
Frequency Range	100÷6000 Hz
Voice Coil Diameter	37 mm (1.46 in)
Winding Material	Al
Former Material	Kapton
Winding Depth	7.5 mm (0.30 in)
Magnetic Gap Depth	6 mm (0.24 in)
Flux Density	1.35 T
Magnet	Ferrite Ring
Basket Material	Aluminum
Demodulation	No
Cone Surround (5)	Half Roll
NET Air Volume filled by Loudspeaker	0.7 dm³ (0.025 ft³)
Spider Profile	1x constant height waves

THIELE & SMALL PARAMETERS

Fs	100 Hz
Re	6 Ω
Qes	0.60
Qms	4.2
Qts	0.53
Vas	5.6 dm³ (0.20 ft³)
Sd	137 cm² (21.28 in²)
Xmax (2)	2.75 mm
Xdamage (3)	11.6 mm
Mms	12.0 g
Bl	8.5 N/A
Le	0.22 mH
Mmd	10.2 g
Cms	0.20 mm/N
Rms	1.8 kg/s
η₀ (Eta Zero)	0.80 %
EBP	167 Hz



6FE200

6" - 130 W - 95 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	160 mm (6 in)
Overall Diameter	167.4 mm (6.59 in)
Bolt Circle Diameter	154 mm (6.06 in)
Baffle Cutout Diameter	144 mm (5.67 in)
Depth	77 mm (3.03 in)
Flange and gasket Thickness	8 mm (0.31 in)
Net Weight	2 kg (4.4 lb)
Shipping Box	190 x 185 x 103 mm
(Single Carton Box)	(7.5 x 7.3 x 4.1 in)
Shipping Weight	2.2 kg (4.9 lb)

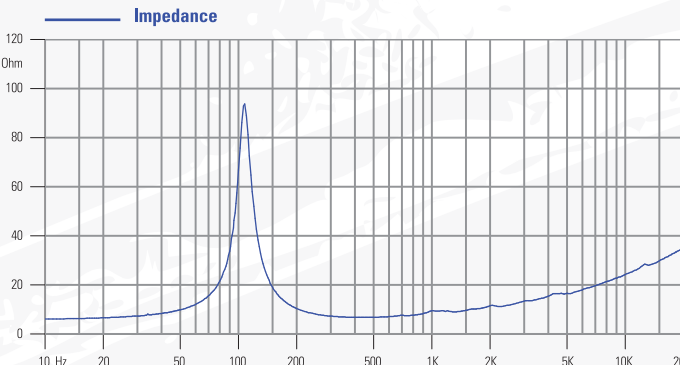
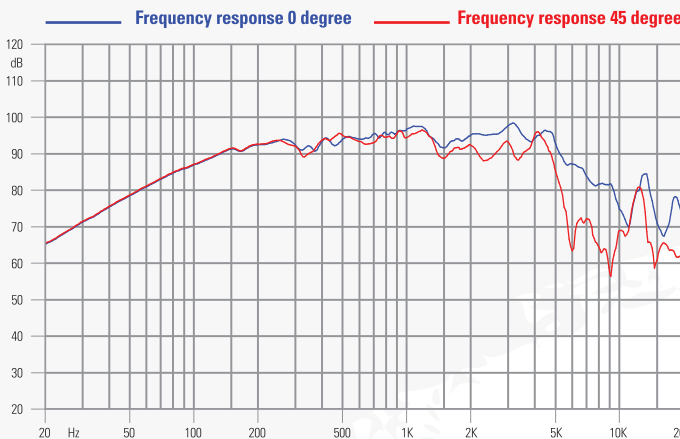
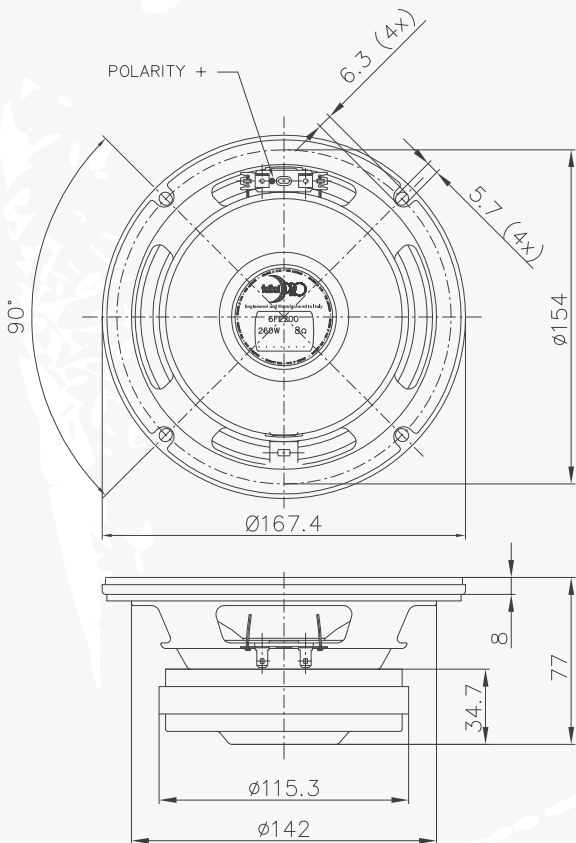
- NOTES:
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
 - (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
 - (3) Maximum excursion before permanent damage
 - (4) Maximum power is defined as 3dB greater than nominal power
 - (5) Treated Polycotton

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	6.8 Ω
AES Power Handling (1)	130 W
Maximum Power Handling (4)	260 W
Sensitivity (1W/1m)	95 dB
Frequency Range	85-6000 Hz
Voice Coil Diameter	37 mm (1.46 in)
Winding Material	Al
Former Material	Kapton
Winding Depth	12 mm (0.47 in)
Magnetic Gap Depth	8 mm (0.31 in)
Flux Density	1 T
Magnet	Ferrite Ring
Basket Material	Steel
Demodulation	No
Cone Surround (5)	M-Roll
NET Air Volume filled by Loudspeaker	0.45 dm³ (0.016 ft³)
Spider Profile	1x constant height waves

THIELE & SMALL PARAMETERS

Fs	120 Hz
Re	5.9 Ω
Qes	0.75
Qms	6.2
Qts	0.67
Vas	3.6 dm³ (0.13 ft³)
Sd	131 cm² (20.23 in²)
Xmax (2)	4.67 mm
Xdamage (3)	10.4 mm
Mms	11.5 g
Bl	8.2 N/A
Le	0.4 mH
Mmd	9.8 g
Cms	0.15 mm/N
Rms	1.4 kg/s
η _o (Eta Zero)	0.80 %
EBP	160 Hz



6FE100

6FE125

6" - 100 W - 91dB

6" - 100 W - 91 dB



NOMINAL SPECIFICATIONS

	6FE100	6FE125
Nominal Diameter	160 mm (6 in)	160 mm (6 in)
Overall Diameter	181.2/164 mm (7.13/6.46 in)	181.8 mm (7.15 in)
Bolt Circle Diameter	167 mm (6.57 in)	167 mm (6.57 in)
Baffle Cutout Diameter	147 mm (5.79 in)	147 mm (5.79 in)
Depth	84.5 mm (3.33 in)	84.5 mm (3.33 in)
Flange and gasket Thickness	8 mm (0.31 in)	8 mm (0.31 in)
Net Weight	1.2 kg (2.6 lb)	1.2 kg (2.6 lb)
Shipping Box	393 x 380 x 128 mm	393 x 380 x 128 mm
(Single Box - 4 units)	(15.5 x 15.0 x 5.0 in)	(15.5 x 15.0 x 5.0 in)
Shipping Weight (4 units)	5.6 kg (12.3 lb)	5.6 kg (12.3 lb)

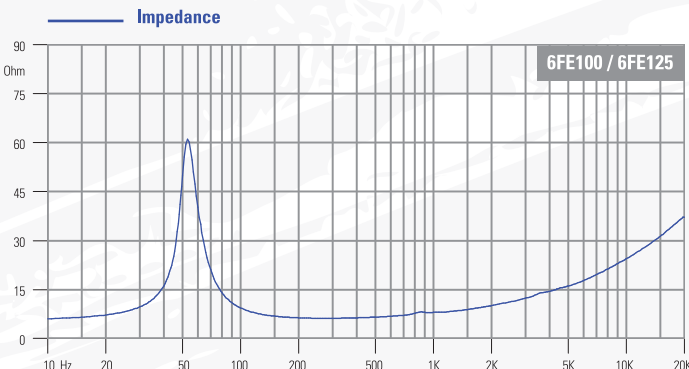
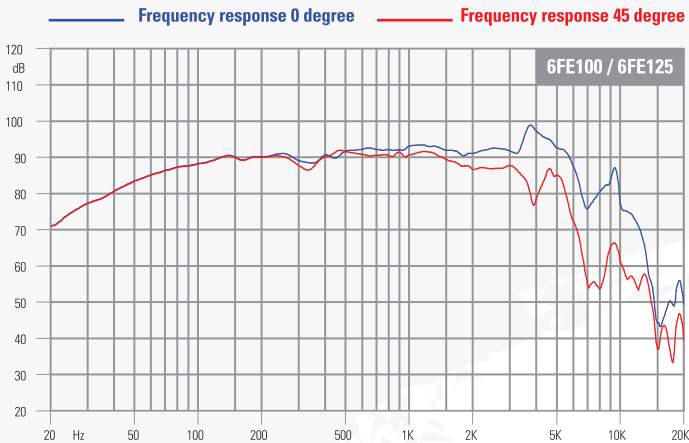
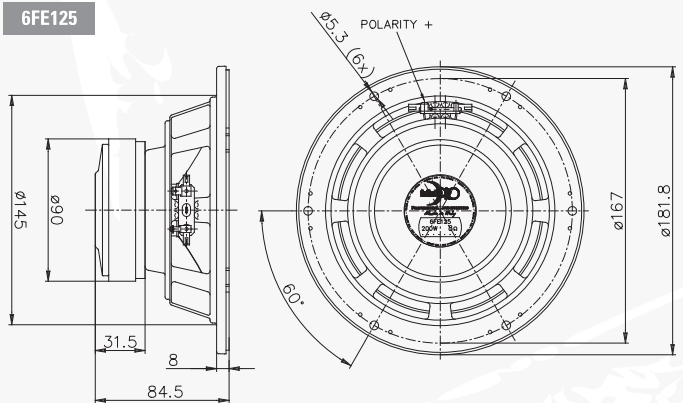
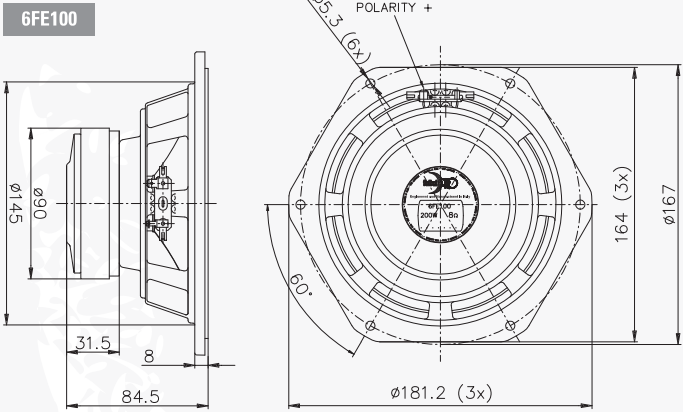
- NOTES:
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
- (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
- (3) Maximum excursion before permanent damage
- (4) Maximum power is defined as 3dB greater than nominal power
- (5) NBR (Rubber)
- Packaged and sold in multiples of 4 units

TECHNICAL PARAMETERS

	6FE100 / 6FE125
Nominal Impedance	8 Ω
Minimum Impedance	5.9 Ω
AES Power Handling (1)	100 W
Maximum Power Handling (4)	200 W
Sensitivity (1W/1m)	91 dB
Frequency Range	63÷5000 Hz
Voice Coil Diameter	32 mm (1.26 in)
Winding Material	Cu
Former Material	Kapton
Winding Depth	12.5 mm (0.49 in)
Magnetic Gap Depth	6 mm (0.24 in)
Flux Density	1 T
Magnet	Ferrite Ring
Basket Material	Steel
Demodulation	Aluminum Ring
Cone Surround (5)	Half Roll
NET Air Volume filled by Loudspeaker	0.4 dm³ (0.014 ft³)
Spider Profile	1x constant height waves

THIELE & SMALL PARAMETERS

	6FE100 / 6FE125
Fs	61 Hz
Re	5.4 Ω
Qes	0.60
Qms	6.0
Qts	0.55
Vas	15.1 dm³ (0.53 ft³)
Sd	149 cm² (23.10 in²)
Xmax (2)	5.25 mm
Xdamage (3)	13.15 mm
Mms	14.0 g
Bl	6.8 N/A
Le	0.5 mH
Mmd	11.9 g
Cms	0.48 mm/N
Rms	0.90 kg/s
η₀ (Eta Zero)	0.53 %
EBP	102 Hz



5PR160

5" - 120 W - 92 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	130 mm (5 in)
Overall Diameter	150/128.2 mm (5.91/5.05 in)
Bolt Circle Diameter	139 mm (5.47 in)
Baffle Cutout Diameter	118 mm (4.65 in)
Depth	74 mm (2.91 in)
Flange and gasket Thickness	9 mm (0.35 in)
Net Weight	850 g (1.9 lb)
Shipping Box	185 x 170 x 102 mm
(Single Carton Box)	(7.3 x 6.7 x 4.0 in)
Shipping Weight	1.0 kg (2.2 lb)

NOTES:

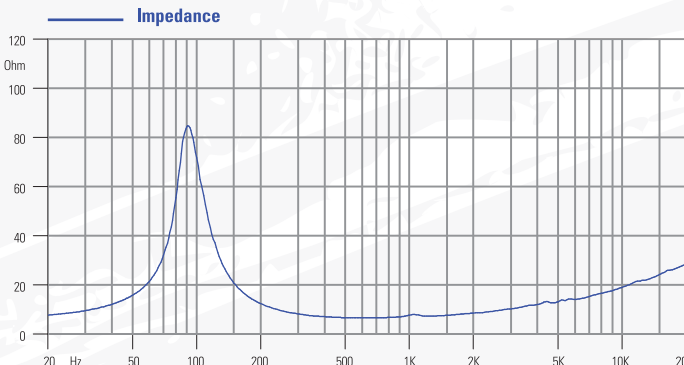
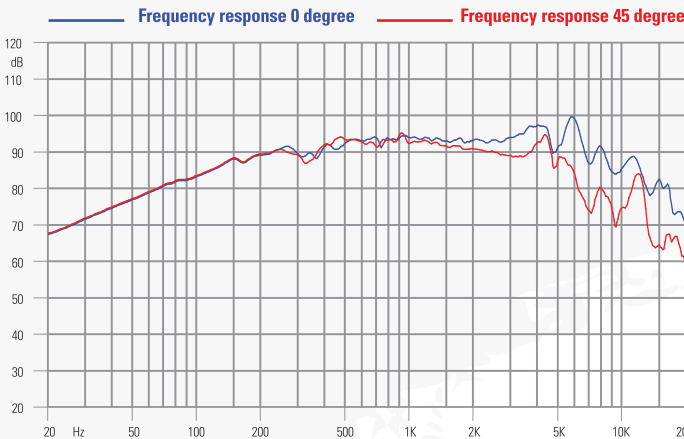
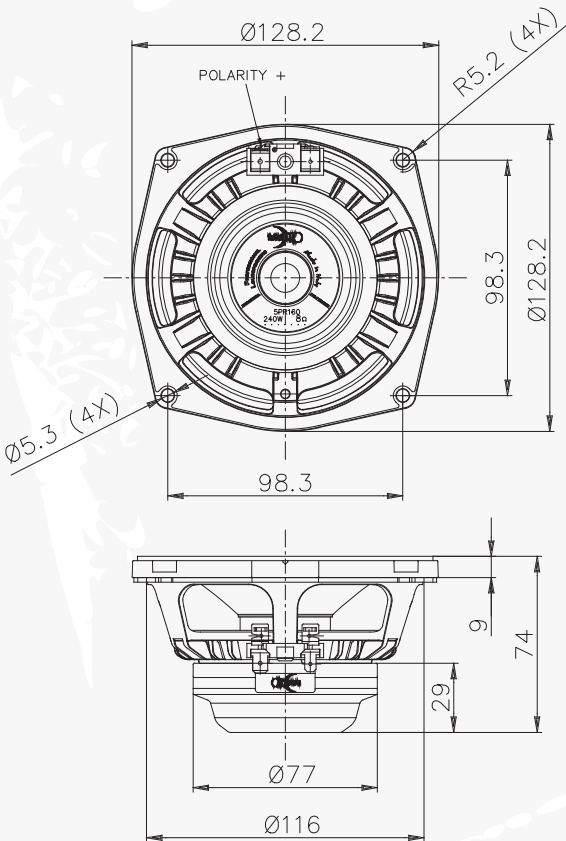
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
- (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
- (3) Maximum excursion before permanent damage
- (4) Maximum power is defined as 3dB greater than nominal power
- (5) Treated Polycotton

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	6.1 Ω
AES Power Handling (1)	120 W
Maximum Power Handling (4)	240 W
Sensitivity (1W/1m)	92 dB
Frequency Range	100÷6500 Hz
Voice Coil Diameter	37 mm (1.45 in)
Winding Material	Al
Former Material	Kapton
Winding Depth	12.2 mm (0.48 in)
Magnetic Gap Depth	6 mm (0.24 in)
Flux Density	1.4 T
Magnet	Neodymium Ring
Basket Material	Aluminum
Demodulation	Aluminum Ring
Cone Surround (5)	M-Roll
NET Air Volume filled by Loudspeaker	0.25 dm³ (0.009 ft³)
Spider Profile	1x constant height waves

THIELE & SMALL PARAMETERS

Fs	90 Hz
Re	6.1 Ω
Qes	0.33
Qms	4.4
Qts	0.31
Vas	3.7 dm³ (0.13 ft³)
Sd	85.2 cm² (13.21 in²)
Xmax (2)	5.10 mm
Xdamage (3)	16.85 mm
Mms	8.5 g
Bl	9.6 N/A
Le	0.3 mH
Mmd	7.6 g
Cms	0.37 mm/N
Rms	1.1 kg/s
η _o (Eta Zero)	0.83 %
EBP	273 Hz



5PR120

5" - 80 W - 100 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	130 mm (5 in)
Overall Diameter	150/128.2 mm (5.91/5.05 in)
Bolt Circle Diameter	139 mm (5.47 in)
Baffle Cutout Diameter	118 mm (4.65 in)
Depth	69 mm (2.72 in)
Flange and gasket Thickness	9 mm (0.35 in)
Net Weight	820 g (1.8 lb)
Shipping Box	185 x 170 x 102 mm
(Single Carton Box)	(7.3 x 6.7 x 4.0 in)
Shipping Weight	1.0 kg (2.2 lb)

NOTES:

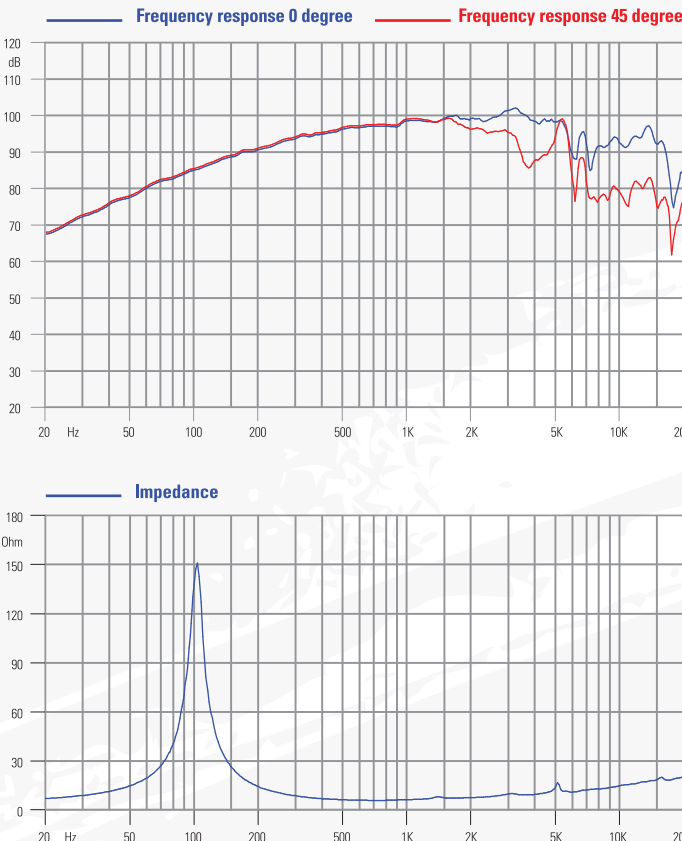
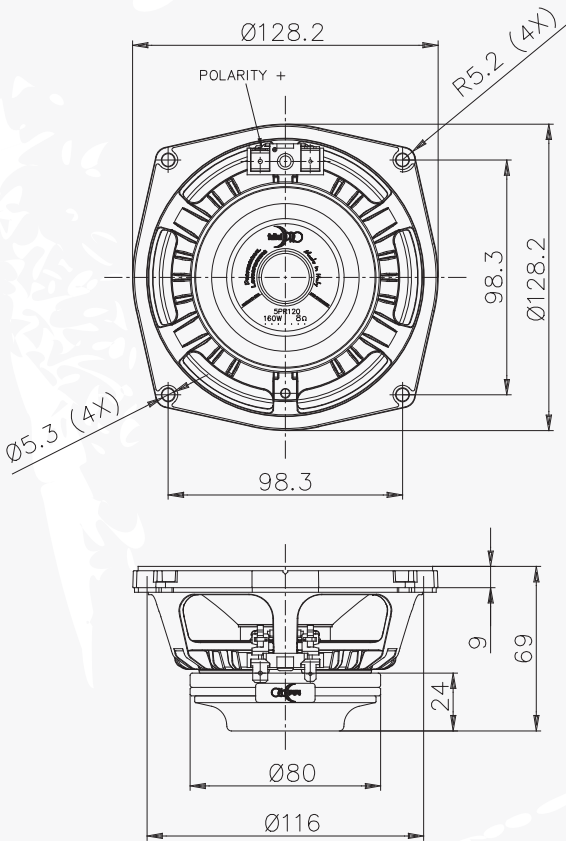
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
- (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
- (3) Maximum excursion before permanent damage
- (4) Maximum power is defined as 3dB greater than nominal power
- (5) EPDM (Rubber)

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	5.9 Ω
AES Power Handling (1)	100 W
Maximum Power Handling (4)	200 W
Sensitivity (1W/1m)	100 dB
Frequency Range	300÷5000 Hz
Voice Coil Diameter	32 mm (1.26 in)
Winding Material	Al
Former Material	Kapton
Winding Depth	8.2 mm (0.32 in)
Magnetic Gap Depth	6 mm (0.24 in)
Flux Density	1.7 T
Magnet	Neodymium Ring
Basket Material	Aluminum
Demodulation	No
Cone Surround (5)	Raised Planar
NET Air Volume filled by Loudspeaker	0.18 dm³ (0.006 ft³)
Spider Profile	1x constant height waves

THIELE & SMALL PARAMETERS

Fs	100 Hz
Re	5 Ω
Qes	0.28
Qms	8.0
Qts	0.27
Vas	4.2 dm³ (0.15 ft³)
Sd	102.2 cm² (15.84 in²)
Xmax (2)	3.10 mm
Xdamage (3)	5.25 mm
Mms	8.5 g
Bl	10 N/A
Le	0.17 mH
Mmd	7.3 g
Cms	0.30 mm/N
Rms	0.7 kg/s
η _o (Eta Zero)	1.58 %
EBP	357 Hz



FERRITE MID WOOFER

5FE125

5" - 80 W - 88 dB

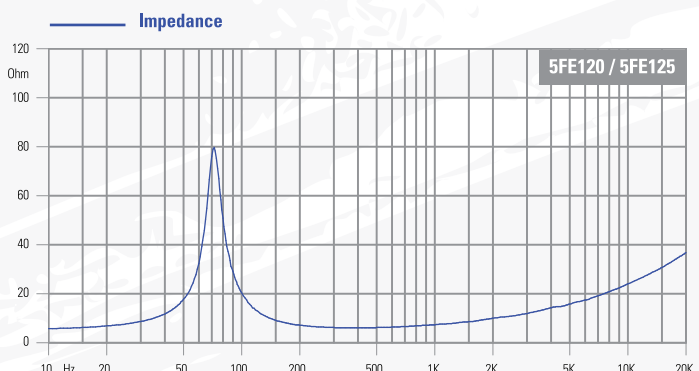
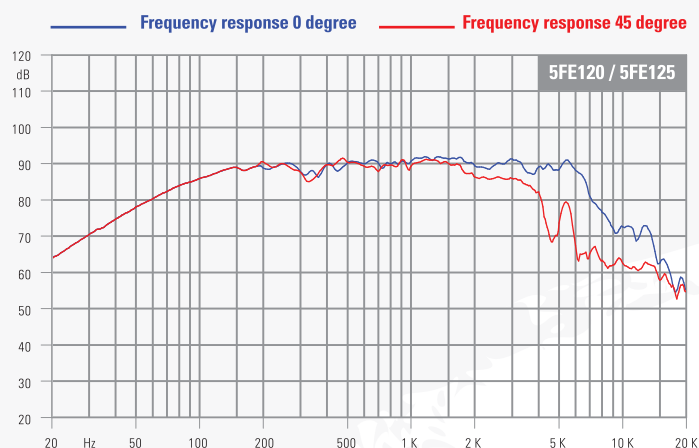
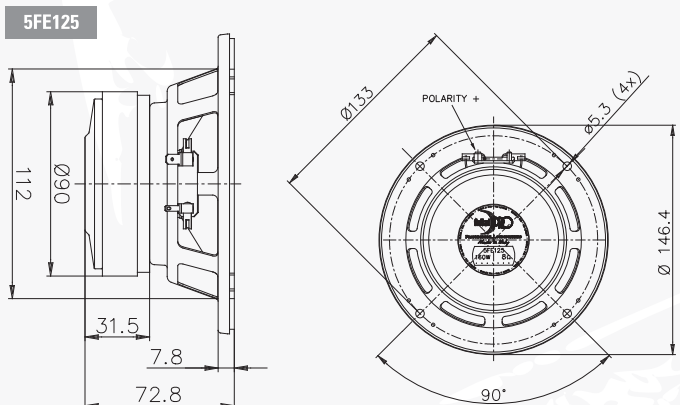
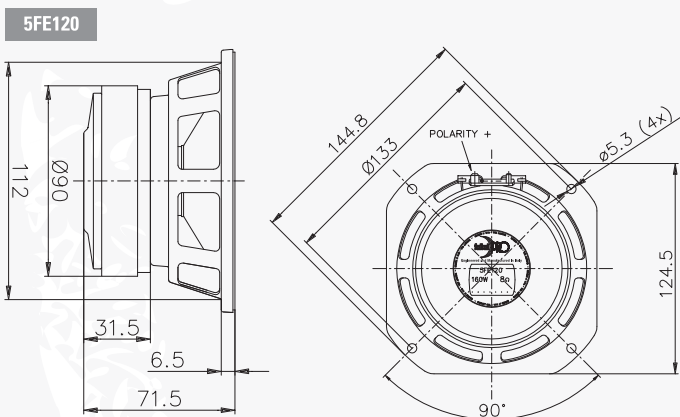


THIELE & SMALL PARAMETERS

	5FE120 / 5FE125
Fs	65 Hz
Re	5.4 Ω
Qes	0.51
Qms	7.4
Qts	0.48
Vas	5.4 dm³ (0.19 ft³)
Sd	84 cm² (13.07 in²)
Xmax (2)	5.25 mm
Xdamage (3)	9.5 mm
Mms	11.0 g
Bl	6.9 N/A
Le	0.41 mH
Mmd	10.1 g
Cms	0.55 mm/N
Rms	0.6 kg/s
η _o (Eta Zero)	0.28 %
EBP	127 Hz

- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
- (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
- (3) Maximum excursion before permanent damage
- (4) Maximum power is defined as 3dB greater than nominal power
- (5) NBR (Rubber)

Packaged and sold in multiples of 8 units



5FE100

5FE105

5" - 80 W - 88 dB

5" - 80 W - 88 dB



NOMINAL SPECIFICATIONS

	5FE100	5FE105
Nominal Diameter	130 mm (5 in)	130 mm (5 in)
Overall Diameter	144.8/124.5 mm (5.7/4.9 in)	146.4 mm (5.8 in)
Bolt Circle Diameter	133 mm (5.24 in)	133 mm (5.24 in)
Baffle Cutout Diameter	114 mm (4.49 in)	114 mm (4.49 in)
Depth	71.5 mm (2.81 in)	72.8 mm (2.86 in)
Flange and gasket Thickness	6.5 mm (0.25 in)	7.8 mm (0.30 in)
Net Weight	1.1 kg (2.5 lb)	1.12 kg (2.5 lb)
Shipping Box	302 x 275 x 186 mm	302 x 275 x 186 mm
(Single Box - 8 units)	(11.9 x 10.8 x 7.3 in)	(11.9 x 10.8 x 7.3 in)
Shipping Weight (8 units)	10.1 kg (22.3 lb)	10.1 kg (22.3 lb)

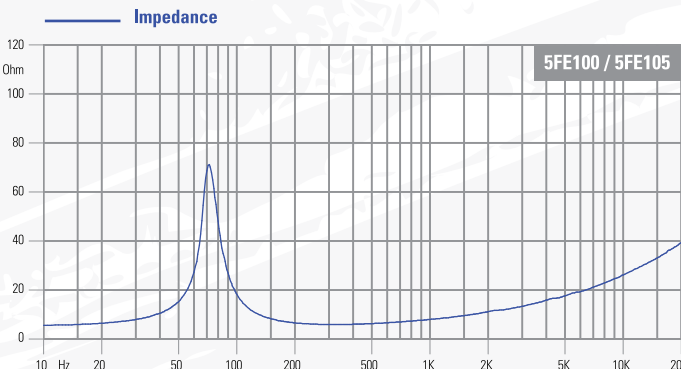
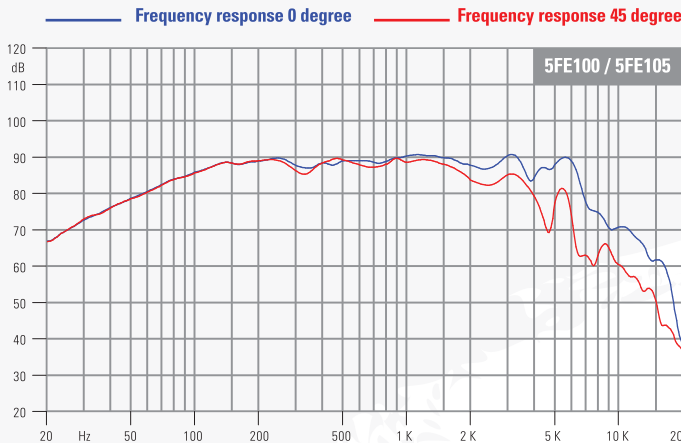
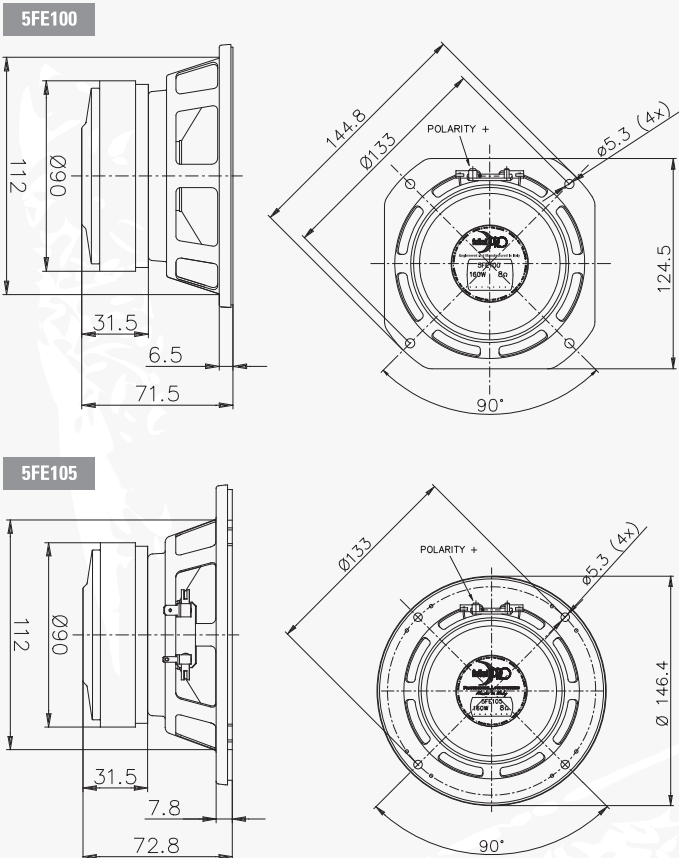
- NOTES:
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
- (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
- (3) Maximum excursion before permanent damage
- (4) Maximum power is defined as 3dB greater than nominal power
- (5) NBR (Rubber)
- Packaged and sold in multiples of 8 units

TECHNICAL PARAMETERS

	5FE100 / 5FE105
Nominal Impedance	8 Ω
Minimum Impedance	6.3 Ω
AES Power Handling (1)	80 W
Maximum Power Handling (4)	160 W
Sensitivity (1W/1m)	88 dB
Frequency Range	63÷6300 Hz
Voice Coil Diameter	32 mm (1.26 in)
Winding Material	Cu
Former Material	Kapton
Winding Depth	12.5 mm (0.49 in)
Magnetic Gap Depth	6 mm (0.24 in)
Flux Density	1 T
Magnet	Ferrite Ring
Basket Material	Steel
Demodulation	No
Cone Surround (5)	Half Roll
NET Air Volume filled by Loudspeaker	0.3 dm³ (0.011 ft³)
Spider Profile	1x constant height waves

THIELE & SMALL PARAMETERS

	5FE100 / 5FE105
Fs	65 Hz
Re	5.4 Ω
Qes	0.48
Qms	8.2
Qts	0.45
Vas	5.7 dm³ (0.20 ft³)
Sd	84 cm² (13.07 in²)
Xmax (2)	5.25 mm
Xdamage (3)	9.5 mm
Mms	10.5 g
Bl	6.9 N/A
Le	0.53 mH
Mmd	9.6 g
Cms	0.57 mm/N
Rms	0.52 kg/s
η₀ (Eta Zero)	0.31 %
EBP	135 Hz



4FE42

4" - 40 W - 94 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	100 mm (4 in)
Overall Diameter	129.85/100.5 mm (5.11/3.96 in)
Bolt Circle Diameter	115.26 mm (4.54 in)
Baffle Cutout Diameter	91.5 mm (3.60 in)
Depth	54.1 mm (2.13 in)
Flange and gasket Thickness	7 mm (0.28 in)
Net Weight	390 g (0.9 lb)
Shipping Box	225 x 225 x 150 mm
(Single Carton Box - 8 units)	(8.9 x 8.9 x 5.9 in)
Shipping Weight (8 units)	3.6 kg (7.9 lb)

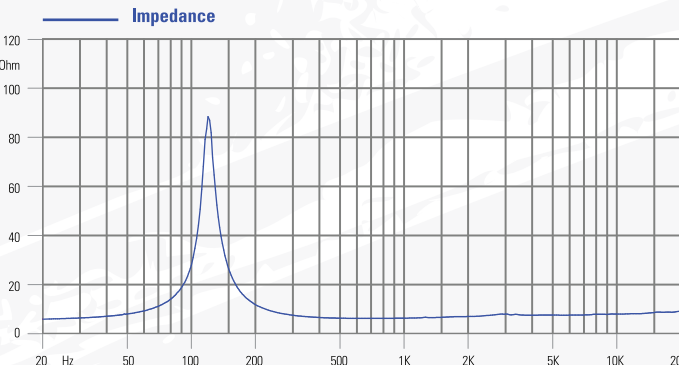
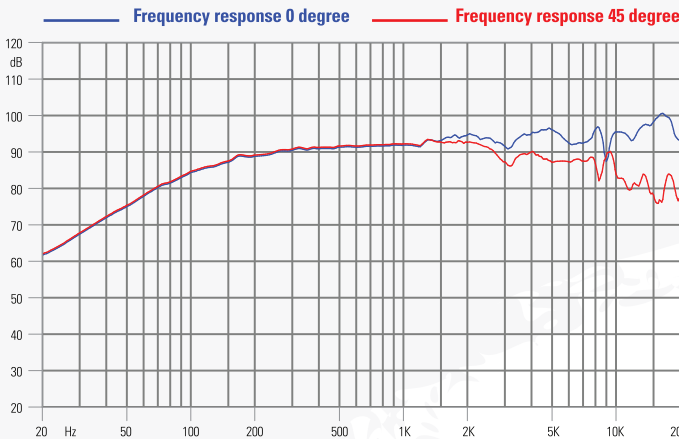
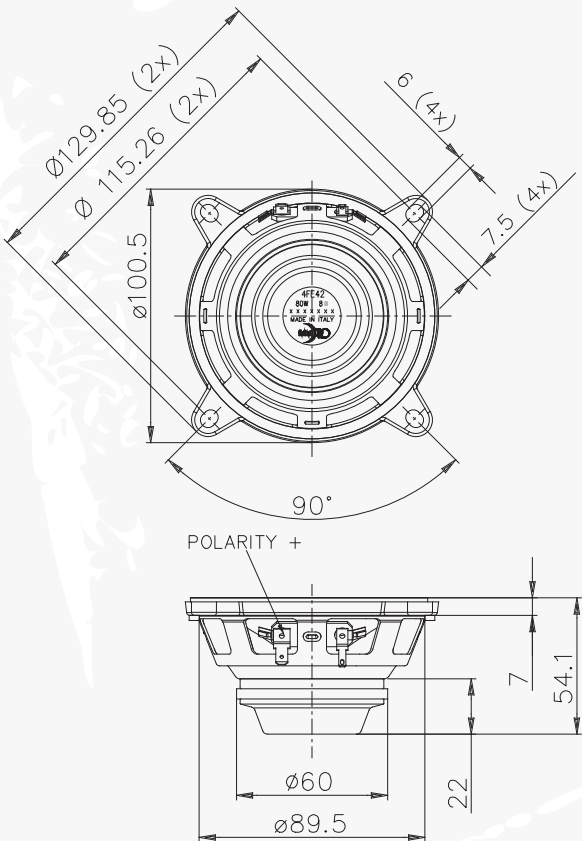
- NOTES:
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
 - (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
 - (3) Maximum excursion before permanent damage
 - (4) Maximum power is defined as 3dB greater than nominal power
 - (5) NBR (Rubber)
- Packaged and sold in multiples of 8 units

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	6.2 Ω
AES Power Handling (1)	40 W
Maximum Power Handling (4)	80 W
Sensitivity (1W/1m)	94 dB
Frequency Range	100÷20000 Hz
Voice Coil Diameter	25 mm (0.98 in)
Winding Material	Al
Former Material	Kapton
Winding Depth	7 mm (0.28 in)
Magnetic Gap Depth	4 mm (0.16 in)
Flux Density	1.4 T
Magnet	Neodymium Ring
Basket Material	Steel
Demodulation	Copper Cap
Cone Surround (5)	Half Roll
NET Air Volume filled by Loudspeaker	0.105 dm³ (0.004 ft³)
Spider Profile	1x constant height waves

THIELE & SMALL PARAMETERS

Fs	110 Hz
Re	5.4 Ω
Qes	0.50
Qms	8.0
Qts	0.47
Vas	1.9 dm³ (0.07 ft³)
Sd	50.9 cm² (7.89 in²)
Xmax (2)	2.83 mm
Xdamage (3)	5.1 mm
Mms	4.0 g
Bl	6 N/A
Le	0.07 mH
Mmd	3.6 g
Cms	0.52 mm/N
Rms	0.3 kg/s
η _o (Eta Zero)	0.59 %
EBP	220 Hz



4FE32

4" - 30 W - 91 dB

4FE35

4" - 30 W - 91 dB



NOMINAL SPECIFICATIONS

	4FE32	4FE35
Nominal Diameter	100 mm (4 in)	100 mm (4 in)
Overall Diameter	129.85/100.5 mm (5.11/3.96 in)	129.85/100.5 mm (5.11/3.96 in)
Bolt Circle Diameter	115.26 mm (4.54 in)	115.26 mm (4.54 in)
Baffle Cutout Diameter	91.5 mm (3.60 in)	91.5 mm (3.60 in)
Depth	49.8 mm (1.96 in)	58.3 mm (2.30 in)
Flange and gasket Thickness	7.2 mm (0.28 in)	7.2 mm (0.28 in)
Net Weight	270 g (0.6 lb)	570 g (1.3 lb)
Shipping Box	225 x 225 x 150 mm	225 x 225 x 150 mm
(Single Box - 8 units)	(8.9 x 8.9 x 5.9 in)	(8.9 x 8.9 x 5.9 in)
Shipping Weight (8 units)	2.8 kg (6.2 lb)	5 kg (11.0 lb)

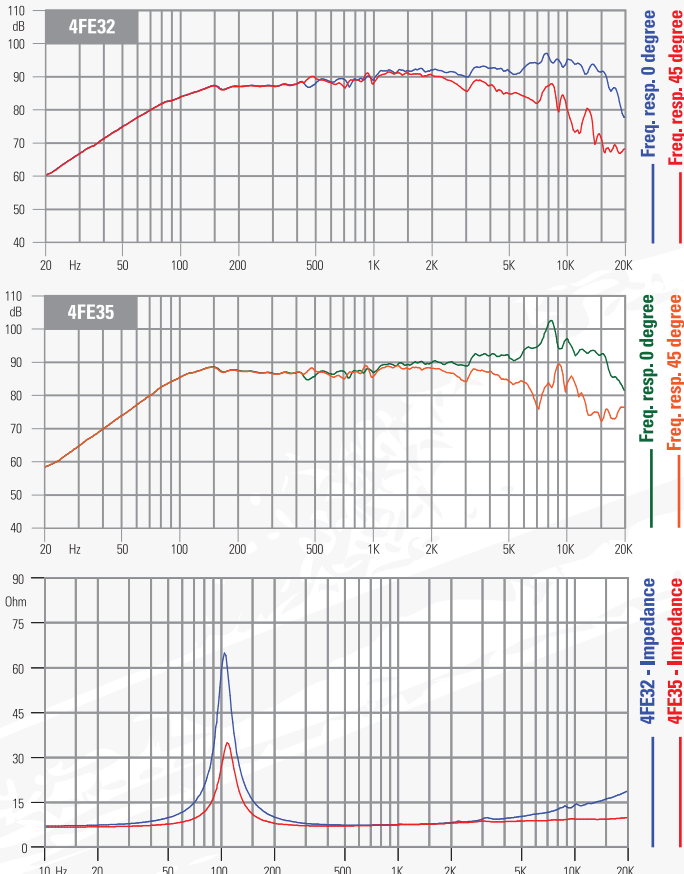
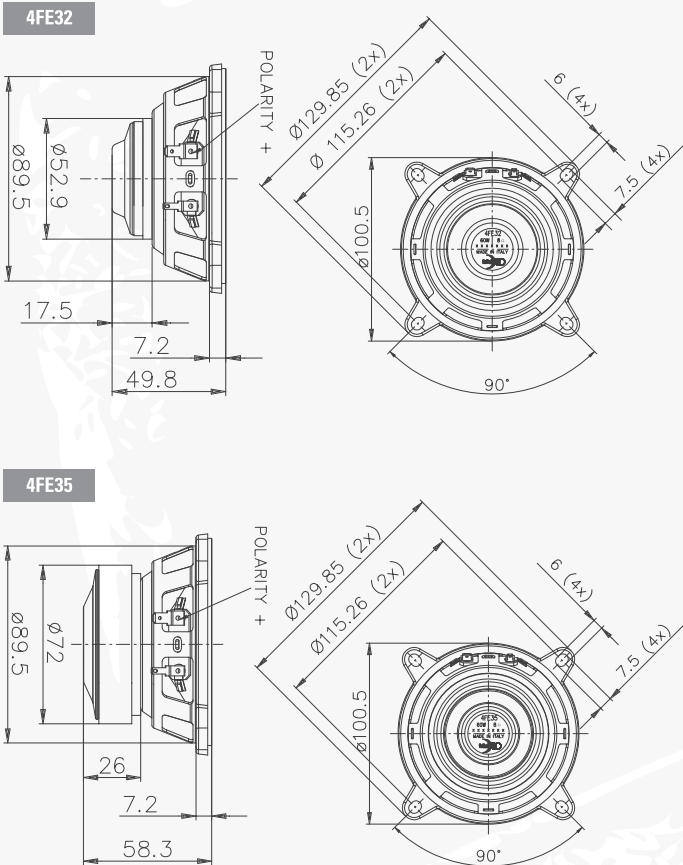
- NOTES:
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
 - (2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
 - (3) Maximum excursion before permanent damage
 - (4) Maximum power is defined as 3dB greater than nominal power
 - (5) NBR (Rubber)
- Packaged and sold in multiples of 8 units

TECHNICAL PARAMETERS

	4FE32	4FE35
Nominal Impedance	8 Ω	8 Ω
Minimum Impedance	7 Ω	7.2 Ω
AES Power Handling (1)	30 W	30 W
Maximum Power Handling (4)	60 W	60 W
Sensitivity (1W/1m)	91 dB	91 dB
Frequency Range	90÷20000 Hz	90÷20000 Hz
Voice Coil Diameter	19 mm (0.75 in)	19 mm (0.75 in)
Winding Material	Al	Al
Former Material	Kapton	Kapton
Winding Depth	6.8 mm (0.27 in)	6.8 mm (0.27 in)
Magnetic Gap Depth	4 mm (0.16 in)	4 mm (0.16 in)
Flux Density	1.4 T	1.1 T
Magnet	Neodymium Ring	Ferrite Ring
Basket Material	Steel	Steel
Demodulation	No	Copper Cap
Cone Surround (5)	Half Roll	Half Roll
NET Air Volume filled by Loudspeaker	0.075 dm³ (0.003 ft³)	0.150 dm³ (0.005 ft³)
Spider Profile	1x constant height waves	

THIELE & SMALL PARAMETERS

	4FE32	4FE35
Fs	100 Hz	100 Hz
Re	6.5 Ω	6.5 Ω
Qes	0.70	1.04
Qms	4.9	4.2
Qts	0.61	0.84
Vas	2.3 dm³ (0.08 ft³)	2.4 dm³ (0.07 ft³)
Sd	51.9 cm² (8.04 in²)	51.9 cm² (8.04 in²)
Xmax (2)	2.73 mm	2.73 mm
Xdamage (3)	6.8 mm	6.8 mm
Mms	4.2 g	3.9 g
Bl	4.8 N/A	3.9 N/A
Le	0.18 mH	0.1 mH
Mmd	3.8 g	3.5 g
Cms	0.60 mm/N	0.65 mm/N
Rms	0.5 kg/s	0.6 kg/s
η _o (Eta Zero)	0.30 %	0.23 %
EBP	143 Hz	96 Hz



3FE26

3" - 20 W - 90 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	80 mm (3 in)
Overall Diameter	105.6/81 mm (4.16/3.19 in)
Bolt Circle Diameter	92 mm (3.62 in)
Baffle Cutout Diameter	73.6 mm (2.90 in)
Depth	39.7 mm (1.56 in)
Flange and gasket Thickness	4.7 mm (0.19 in)
Net Weight	150 g (0.59 lb)
Shipping Box	285 x 285 x 255 mm
(Single Carton Box - 36 units)	(11.2 x 11.2 x 10.0 in)
Shipping Weight	6.8 kg (15.0 lb)

NOTES:

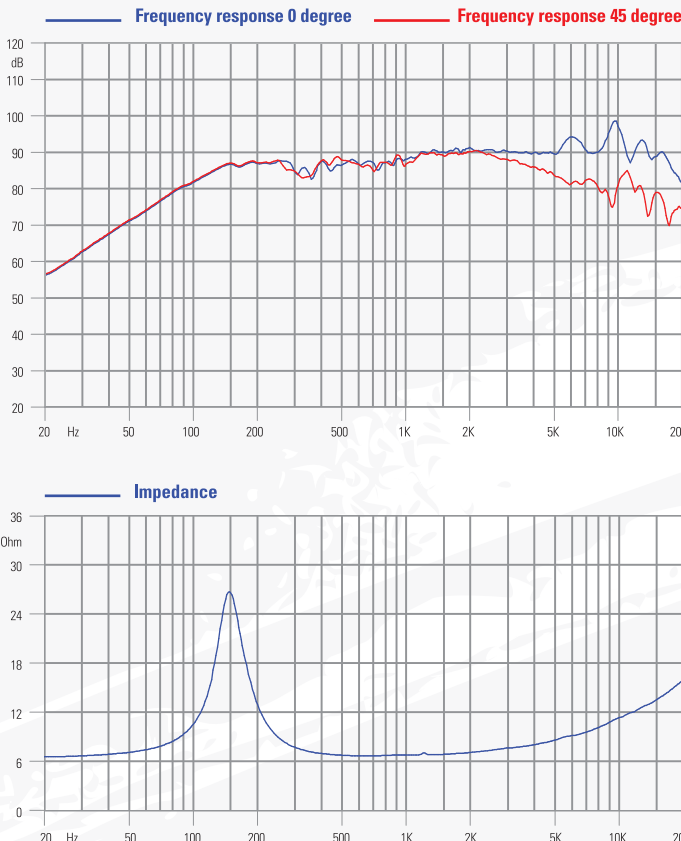
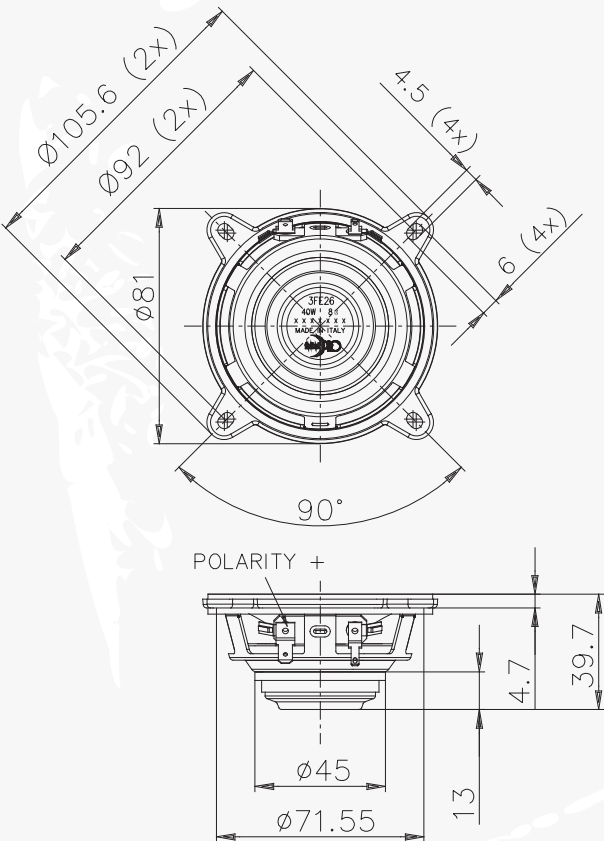
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
(2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
(3) Maximum excursion before permanent damage
(4) Maximum power is defined as 3dB greater than nominal power
(5) Treated Polycotton
Packaged and sold in multiples of 36 units

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	6.4 Ω
AES Power Handling (1)	20 W
Maximum Power Handling (4)	40 W
Sensitivity (1W/1m)	90 dB
Frequency Range	100÷20000 Hz
Voice Coil Diameter	19 mm (0.75 in)
Winding Material	Al
Former Material	Kapton
Winding Depth	5 mm (0.20 in)
Magnetic Gap Depth	3 mm (0.12 in)
Flux Density	1.2 T
Magnet	Neodymium Ring
Basket Material	Steel
Demodulation	No
Cone Surround (5)	Half Roll
NET Air Volume filled by Loudspeaker	0.040 dm ³ (0.001 ft ³)
Spider Profile	1x constant height waves

THIELE & SMALL PARAMETERS

Fs	150 Hz
Re	6.2 Ω
Qes	1.10
Qms	2.8
Qts	0.79
Vas	0.9 dm ³ (0.03 ft ³)
Sd	33 cm ² (5.12 in ²)
Xmax (2)	2.00 mm
Xdamage (3)	7.9 mm
Mms	1.9 g
Bl	3.3 N/A
Le	0.12 mH
Mmd	1.7 g
Cms	0.59 mm/N
Rms	0.6 kg/s
η_0 (Eta Zero)	0.29 %
EBP	136 Hz



NEODYMIUM FULL RANGE

3FE22

3" - 20 W - 91 dB

FERRITE FULL RANGE

3FE25

3" - 20 W - 91 dB



NOMINAL SPECIFICATIONS

	3FE22	3FE25
Nominal Diameter	80 mm (3 in)	80 mm (3 in)
Overall Diameter	105.6/81 mm (4.16/3.19 in)	105.6/81 mm (4.16/3.19 in)
Bolt Circle Diameter	92 mm (3.62 in)	92 mm (3.62 in)
Baffle Cutout Diameter	73.6 mm (2.90 in)	73.6 mm (2.90 in)
Depth	46 mm (1.81 in)	54.5 mm (2.15 in)
Flange and gasket Thickness	6.5 mm (0.26 in)	6.5 mm (0.26 in)
Net Weight	240 g (0.53 lb)	545 g (1.20 lb)
Shipping Box	285 x 285 x 255 mm	285 x 285 x 255 mm
(Single Box - 36 units)	(11.2 x 11.2 x 10.0 in)	(11.2 x 11.2 x 10.0 in)
Shipping Weight (36 units)	10 kg (22.0 lb)	20.8 kg (45.9 lb)

NOTES:

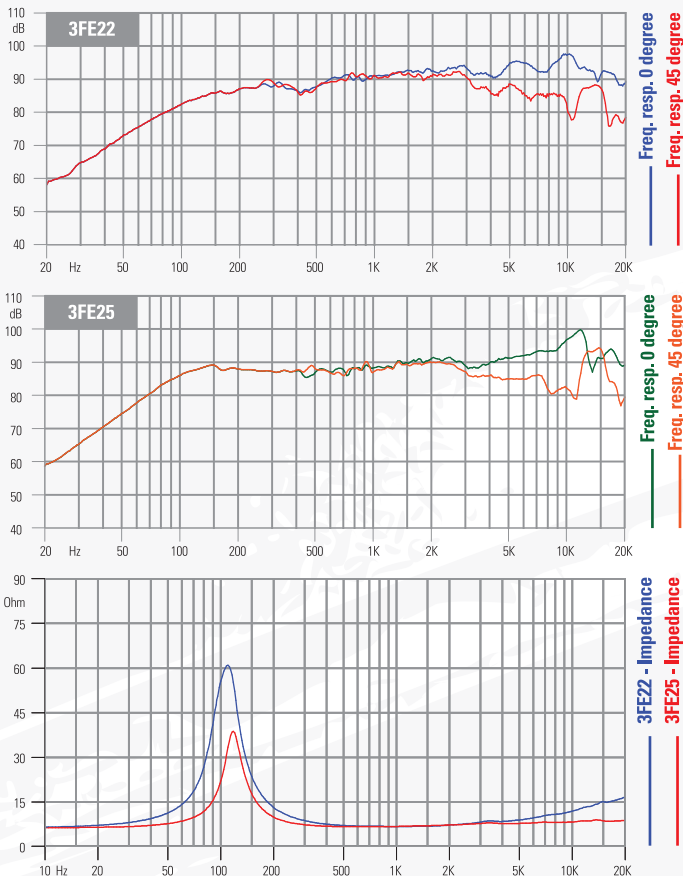
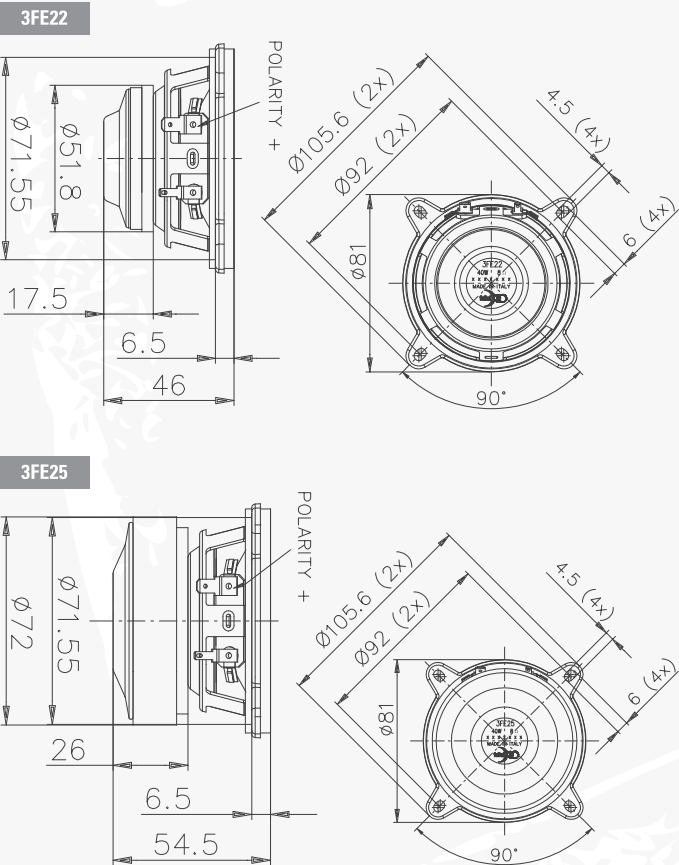
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
(2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
(3) Maximum excursion before permanent damage
(4) Maximum power is defined as 3dB greater than nominal power
(5) NBR (Rubber)
Packaged and sold in multiples of 36 units

TECHNICAL PARAMETERS

	3FE22	3FE25
Nominal Impedance	8 Ω	8 Ω
Minimum Impedance	6.2 Ω	6.2 Ω
AES Power Handling (1)	20 W	20 W
Maximum Power Handling (4)	40 W	40 W
Sensitivity (1W/1m)	91 dB	91 dB
Frequency Range	100÷20000 Hz	100÷20000 Hz
Voice Coil Diameter	19 mm (0.75 in)	19 mm (0.75 in)
Winding Material	Al	Al
Former Material	Kapton	Kapton
Winding Depth	5 mm (0.20 in)	5 mm (0.20 in)
Magnetic Gap Depth	4 mm (0.16 in)	4 mm (0.16 in)
Flux Density	1.4 T	1.1 T
Magnet	Neodymium Ring	Ferrite Ring
Basket Material	Steel	Steel
Demodulation	No	Copper Cap
Cone Surround (5)	Half Roll	Half Roll
NET Air Volume filled by Loudspeaker	0.060 dm ³ (0.002 ft ³)	0.125 dm ³ (0.004 ft ³)
Spider Profile	1x constant height waves	

THIELE & SMALL PARAMETERS

	3FE22	3FE25
Fs	110 Hz	110 Hz
Re	6.2 Ω	6.2 Ω
Qes	0.52	0.79
Qms	5.0	4.1
Qts	0.47	0.66
Vas	1.3 dm ³ (0.05 ft ³)	1.3 dm ³ (0.05 ft ³)
Sd	33 cm ² (5.12 in ²)	33 cm ² (5.12 in ²)
Xmax (2)	1.83 mm	1.83 mm
Xdamage (3)	7.3 mm	7.9 mm
Mms	2.5 g	2.4 g
Bl	4.5 N/A	3.6 N/A
Le	0.15 mH	0.07 mH
Mmd	2.3 g	2.2 g
Cms	0.84 mm/N	0.87 mm/N
Rms	0.35 kg/s	0.4 kg/s
η_{Lo} (Eta Zero)	0.31 %	0.22 %
EBP	212 Hz	139 Hz



2FE24

2.5" - 20 W - 85 dB



NOMINAL SPECIFICATIONS

Nominal Diameter	66 mm (2.5 in)
Overall Diameter	88/68 mm (3.46/2.68 in)
Bolt Circle Diameter	75 mm (2.95 in)
Baffle Cutout Diameter	60.5 mm (2.38 in)
Depth	32.5 mm (1.28 in)
Flange and gasket Thickness	6 mm (0.24 in)
Net Weight	122 g (0.3 lb)
Shipping Box	285 x 285 x 255 mm
(Single Carton Box - 36 units)	(11.2 x 11.2 x 10 in)
Shipping Weight	5.8 kg (12.8 lb)

NOTES:

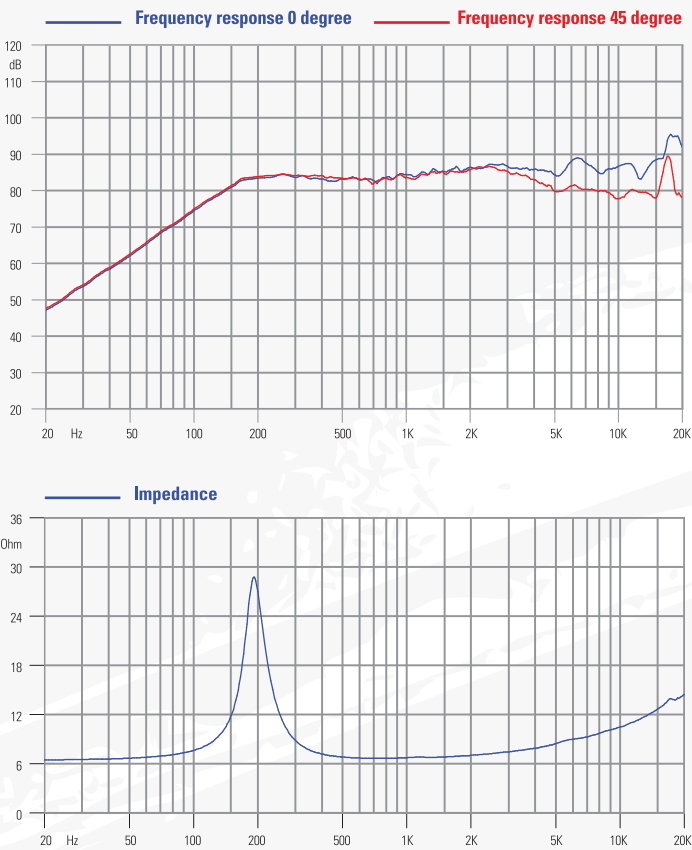
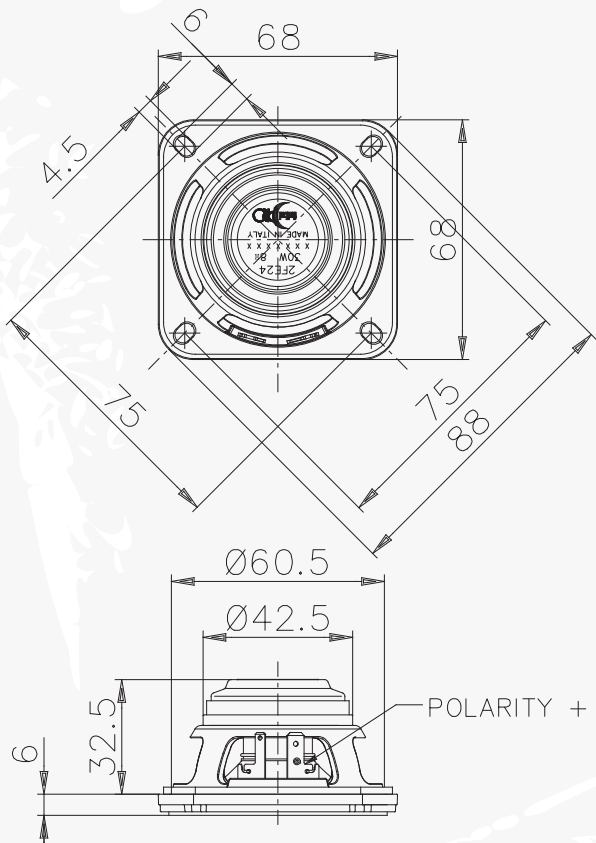
- (1) 2 Hours Test According to AES 2-1984 Rev. 2003
(2) $X_{max} = [(Winding\ Depth - magnetic\ gap\ depth)/2] + (magnetic\ gap\ depth / 3)$
(3) Maximum excursion before permanent damage
(4) Maximum power is defined as 3dB greater than nominal power
(5) EPDM (Rubber)
Packaged and sold in multiples of 36 units

TECHNICAL PARAMETERS

Nominal Impedance	8 Ω
Minimum Impedance	6.6 Ω
AES Power Handling (1)	20 W
Maximum Power Handling (4)	40 W
Sensitivity (1W/1m)	85 dB
Frequency Range	170÷20000 Hz
Voice Coil Diameter	19 mm (0.75 in)
Winding Material	Al
Former Material	Kapton
Winding Depth	4.5 mm (0.18 in)
Magnetic Gap Depth	3 mm (0.12 in)
Flux Density	1.3 T
Magnet	Neodymium Ring
Basket Material	Polycarbonate
Demodulation	No
Cone Surround (5)	Half Roll
NET Air Volume filled by Loudspeaker	0.030 dm ³ (0.001 ft ³)
Spider Profile	1x constant height waves

THIELE & SMALL PARAMETERS

Fs	170 Hz
Re	6.5 Ω
Qes	1.22
Qms	4.1
Qts	0.94
Vas	0.3 dm ³ (0.01 ft ³)
Sd	20.1 cm ² (3.12 in ²)
Xmax (2)	1.75 mm
Xdamage (3)	5.3 mm
Mms	1.9 g
Bl	3.5 N/A
Le	0.11 mH
Mmd	1.8 g
Cms	0.46 mm/N
Rms	0.5 kg/s
η_o (Eta Zero)	0.12 %
EBP	139 Hz



NOTES

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