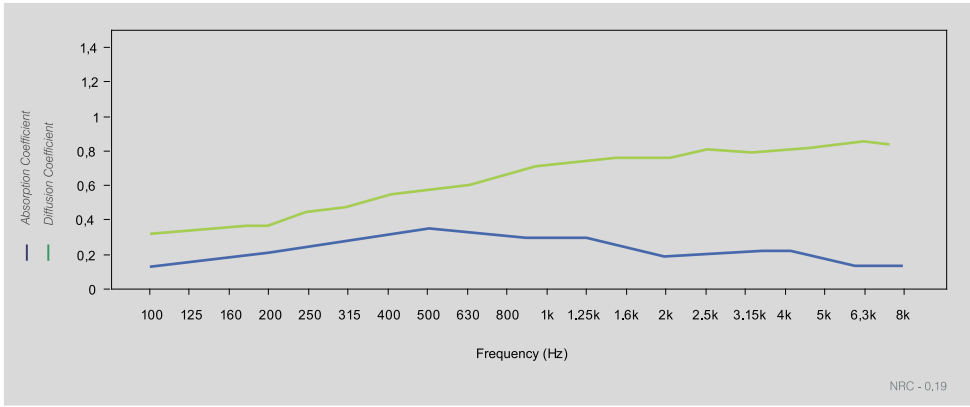
DYNAMICFLOW AC SH®

Based on works and experiments in the field of sound wave diffusion and the positive aspects that result from the presence of diffusers in rooms, we have built this acoustic diffuser. Therefore, we are presenting new design proposals which are less common in diffusion structures designed for mobile use. The “DYN Ac Sh®” is an easy-to-install portable acoustic diffusion shell meant to be used in certain types of musical concerts. It is a piece that changes the room’s acoustics by enhancing its features. Diffusion shells are acoustic treatment elements used in large-volume rooms, such as theatres and auditoriums. They may also be used outdoors for the performance of concerts by large orchestras or just recitals. The installation of these acoustic diffusion components is meant to project the non-amplified original sound from the stage towards the audience. This will enable to hear the sound that comes directly from the sound sources and instruments, without the characterisation or colouring inherent to the use of electro-acoustics. These shells also enable the stage and the room to be within the same space and not separate in two by the mouth of the stage. These pieces do not need any preparation prior to their installation, just a free stage with good access. They must be coupled and multiplied in such a way that is adequate to each project in order to obtain a diffusing area that is proportionate to the space in question. Depending on the space available on the stage, more or less elements may be used in order to form the shape of a perfect shell. Built on a modular configuration with 1,2x1,2m pieces, up to four modules can be coupled in height, thus totalling a diffusing homogeneous surface of 4,8x1,2m. Its scattering features improve with the application of more modules. The DYN Ac Sh® is a large-sized diffuser that provides a very homogeneous diffusion within the sound and diffuse spectrum. In order to determine the “scattering coefficient”, simulations were carried out on raytracing during the method to develop the product.

Graphic



Diffusion Coefficient

100	125	160	200	250	315	400	500	630	800	1k	1.25k	1.6k	2k	2.5k	3.15k	4k	5k	6.3k	8k
0,31	0,34	0,35	0,37	0,44	0,47	0,54	0,58	0,61	0,68	0,73	0,74	0,77	0,77	0,81	0,79	0,82	0,83	0,86	0,84

These values were obtained by mathematical calculations and tests carried out in our laboratory

Absorption Coefficient

100	125	160	200	250	315	400	500	630	800	1k	1.25k	1.6k	2k	2.5k	3.15k	4k	5k	6.3k	8k
0,18	0,27	0,38	0,31	0,14	0,12	0,16	0,13	0,14	0,17	0,21	0,34	0,46	0,41	0,37	0,34	0,36	0,37	0,11	0,11

Values in accordance with the Standards: EN 20354, ASTM C423 and EN 11654. *Non Standard values.*

Models

	H	W	D	Kg
DYN AC SH 4	500 cm	124 cm	202 cm	120
CLOSED BOX	152 cm	124 cm	64 cm	
DYN AC SH 3	381 cm	124 cm	202 cm	100
CLOSED BOX	152 cm	124 cm	50 cm	

Technical Drawing