## Spectral Dynamics Magnesium Head Expander

## **FEATURES**

The Magnesium Head Expander provides vertical test mounting surface larger than the one the shaker armature provides. It is fabricated with casting ZM5 (equivalent to AZ91) with top and bottom surface flatness and parallelism greater than 0.15mm. To protect the magnesium, all the bases of bolt counter bore holes are fitted with thick stainless steel washers, pressed into place. To prevent oxidation, the head expander's surface is anodized. Stainless inserts are used for the specimen mounting.

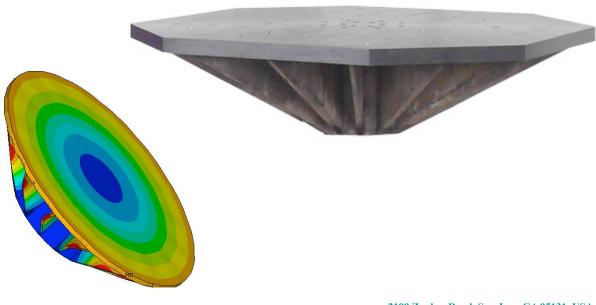
The magnesium has the characteristics of high specific stiffness and specific strength which prove singularly useful for fabricating the shaker head expander.

Due to the design of FEMA (Finite Element and Modal Analysis), the head expander can achieve higher useable frequency with low mass to make the shaker output force effective.

There are three kinds of top surface namely, octagon, round and square. Due to the flapping of the 4 corners of the square top surface, the 4 corners are cut resulting in an octagon shape to achieve higher uniformity.

Aluminum Alloy is also used to fabricate the head expander in case the testing needs higher useable frequency and the higher driven mass of the head expander is not a critical factor.

The useable frequency means the max controllable frequency when the control point is located at the center and transferring shaker's rated force. The controllable frequency depends on the location of the control point and force.



			OCTAC	ON HEAD	EXPANDE	ER SPECIF	ICATIONS						
Armature Diameter (mm)													
HE Model	15	50	230	/235	335/340		440/445/450		550		650/670		
HE300C	5	100					Mass (Mg) in kg				Height (mm)		
	2000						Useable Frequency (Hz)						
HE400C	9	150	12 150										
	2000		2000										
HETOOC	18	200	21	200	22	150	150						
HE500C	1800		2000		2000								
	18	200	25	200	33	200	35	150					
HE600C	600		1600		2000		2000						
	24	250	36	250	45	200	45	200					
HE700C	10	1000		1000		1800		1500					
HEDDOG				250	48	250	55	250	86	250			
HE800C	-			1000		1300		1500		1800			
НЕ900С				250	70	300	68	270	90	250			
	-			600		1200		1200		1200			
HE1000C				250	90	300	135	350	140	350	150	350	
	-			400		900		900		900		1200	
НЕ1200С						350	165	350	180	350	190	350	
	-					400		500		500		450	
HE1500C							245	400	260	400	265	400	
	-							400		400		500	

ROUND HEAD EXPANDER SPECIFICATIONS  Armature Diameter (mm)											
HE Model	150		230/235		335/340		440/445/450		550	650/670	
HE300R	5	100						Mass (M	Mg) in kg	Height (mm)	
	2000						Useable Frequency (Hz)				
HE400R	10	150	10	100	13	50					
	2000		2500		2000						
HE500R	14	180	17	150	20	150					
	2000		2000		2000						
HE600R	20	250	20	150	24	150	25	120			
	800		1200		2000		2000				
HE700R			24	200	45	250	45	45 200			
			900		2000		2000				



## ROUND HEAD EXPANDER SPECIFICATIONS

**Armature Diameter (mm)** 

HE Model	150	230/235		335/340		440/445/450		550		650/670	
HE800R		40	250	48	250	55	200	56	200		
		1100		1400		1500		1800			
HE900R				65	300	60	240	65	240		
				1200		1200		1200			
HE1000R				90	300	95	350	104	350	117	350
				1000		1200		1100		1100	
HE1200R						163	400	169	400	189	400
						500		600		600	
HE1500R						220	400	230	400	310	400
						400		400		400	

1. All above specifications are for magnesium alloy Head Expanders.

2. HE300C means the top size of the Head Expander is  $300\text{mm}\times300\text{mm}$  with 4-corner-cut. HE300S means the top size of the Head Expander is  $300\text{mm}\times300\text{mm}$  with non 4-corner-cut. HE300R means the top size of the Head Expander is  $\Phi$ 300mm.

3. HE300 C/S/R  $\sim$  HE500 C/S/R: 50mm  $\times$  50mm in grid pattern of the inserts.

HE600 C/S/R ~ HE1500 C/S/R: 100mm×100mm in grid pattern of the inserts.

In keeping with our commitment to continuous product improvement, the information herein is subject to change. Copyright 2021 Spectral Dynamics, Inc. All rights reserved.



NOTE