OBJECTIVES

CEDRAT TECHNOLOGIES offers specific voice-coils adapted to particular clients’ requirements in terms of environment, static and dynamic regulation, motion and efficiency that cannot be entirely met by off-the-shelf standard products.

They are typically suited to highly constrained applications like space and optical devices, and can almost be derived into high performances voice-coils for industrial applications.

PRESENTATION

CEDRAT TECHNOLOGIES’s specific voice-coils are moving coil actuators with the following characteristics:

- very good linearity
- constant force along the stroke
- high dynamic behaviour
- compatible with severe environment
- adapted for different motion types

For controllability requirement with higher dynamic behaviour and robustness, please refer to our MICA technology.

ADVANTAGES

- High dedication to clients’ specifications (“very” competitive towards standard products for a given application)
- High force density
- Very good linearity
- Easy integration
- Versatility

VERSATILITY

CEDRAT TECHNOLOGIES’s specific voice-coils have been used in different ranges of:

- Motion type: linear or rotary motion
- stroke: 1mm to 30mm
- force: 1N to 200N
- frequency: 1Hz up to 1000Hz
ACTUATORS PERFORMANCES

<table>
<thead>
<tr>
<th></th>
<th>SPACE VOICE COIL 1</th>
<th>SPACE VOICE COIL 2</th>
<th>SPACE VOICE COIL 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stroke</td>
<td>+/- 12°</td>
<td>+/- 15mm</td>
<td>25mm</td>
</tr>
<tr>
<td>Force (N)</td>
<td>0.36 N.m torque in air</td>
<td>13 N in air</td>
<td>90 N in air</td>
</tr>
<tr>
<td>Mobile mass</td>
<td>152 g</td>
<td>130 g</td>
<td>235 g</td>
</tr>
<tr>
<td>Size</td>
<td>L 76mm x H 34mm</td>
<td>Diameter 80mm</td>
<td>Diameter 80mm</td>
</tr>
<tr>
<td></td>
<td>Depth 177mm</td>
<td>Depth 65mm</td>
<td>Depth 123mm</td>
</tr>
<tr>
<td>Comment</td>
<td>Full rotary voice-coil motor With redundancy</td>
<td>Only stator represented With redundancy</td>
<td>Stator and moving coil No redundancy</td>
</tr>
</tbody>
</table>

APPLICATIONS

- Space applications
- Pump and compressor actuation
- Test benches
- Vibration generation and damping
- Optical devices
- Haptic application
- Fast positioning