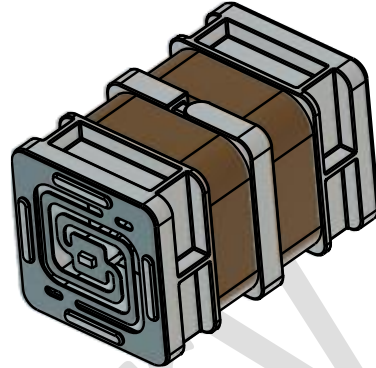


# HF1-65MS A

Electromagnetic Actuator

## CONTENT

1. Specifications
2. Drawing
3. Test Method
4. Reliability Test
5. Packing
6. History Change Record



## 1. SPECIFICATIONS

Parameter	Unit	Conditions / Description	MIN	TYP	MAX
Rated Voltage	V(rms)			1.0	
Nominal Coil Resistance	$\Omega$			5.0	
Acceleration	G0-p	At rated voltage at resonance frequency, 30gr attached mass, free swinger, 22-24°C, 40-60%RH		2.9	
Resonance Frequency	Hz	At 22-24°C, 40-60%RH		65	
Operating Temperature	°C			TBD	
Storage Temperature	°C			TBD	
Weight	g			TBD	

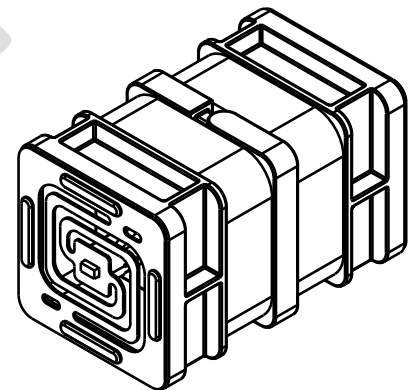
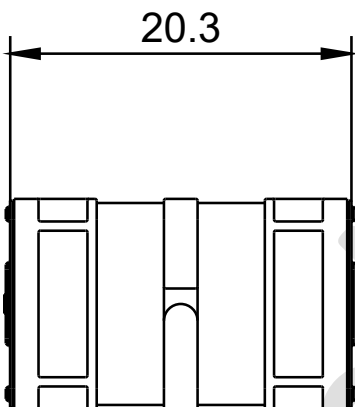
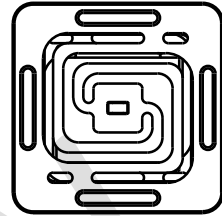
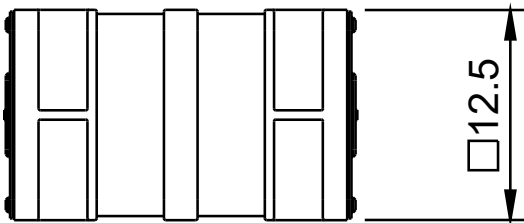
Remark:

DESIGNED BY	Christopher Pagel	DATE	2023.12.01	PART NO.	HF1-65MS A	INDEX	A
RELEASED BY	Daniel Santella	DATE	2023.12.01				
CHANGED BY	Rabea Richter	DATE	2024.03.22				
DRAWING NO.	452615740						

## HF1-65MS A

Electromagnetic Actuator

### 2. DRAWING



DESIGNED BY	Christopher Pagel	DATE	2023.12.01	PART NO.	HF1-65MS A	INDEX	A
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CHANGED BY	Rabea Richter	DATE	2024.03.22				
DRAWING NO.	452615740						

# HF1-65MS A

Electromagnetic Actuator

## 3. TEST METHOD

### 3.1 TEST EQUIPMENT

Function	Manufacturer	Model Number
<b>Acceleration Measurement</b>		
Function Generator	Rigol	DG2052
Power Amplifier	Toellner	TOE7608
Interface	NI	USB-4431
Accelerometer	PCB Piezotronics	352C33
<b>Electrical Measurement</b>		
Audio Analyzer	NTi Audio	FX100

### 3.2 TEST FIXTURE

#### 3.2.1 ACCELERATION MEASUREMENT

For this test bench, a defined load (30g weight) is centric suspended at its four edges inside a heavy metal frame (1mx1m). The suspension is made by 4 thin threads, with a spring inserted at the top. The actuator and the accelerometer are mounted stiffly on the load.

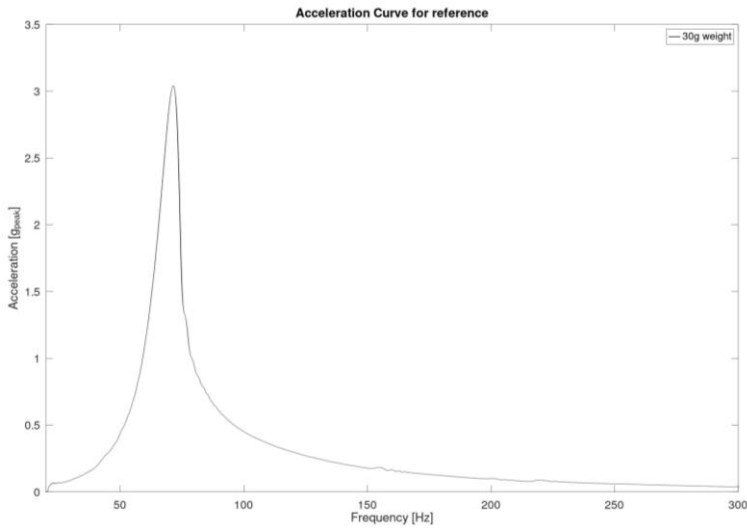
#### 3.2.2 ELECTRICAL MEASUREMENT

Electrical impedance response has been measured with infinite mass mounted to the actuator.

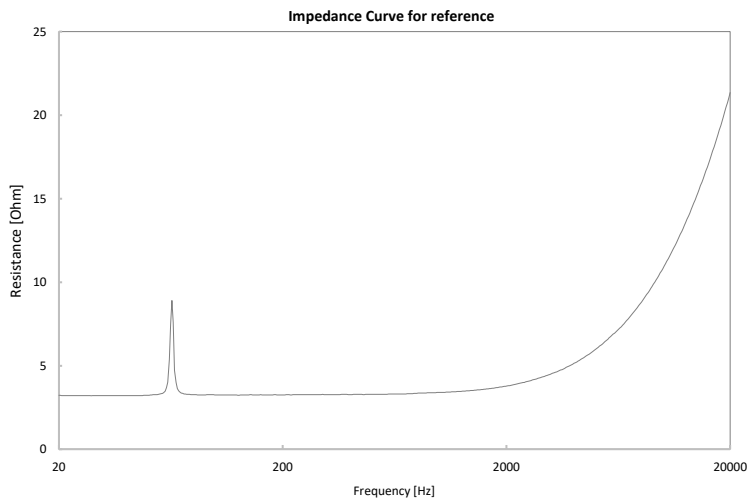
DESIGNED BY	Christopher Pagel	DATE	2023.12.01	PART NO.	HF1-65MS A	INDEX	A
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DRAWING NO.	452615740						

### 3.3 MEASUREMENT CURVES (only for reference)

#### 3.3.1 ACCELERATION CURVE



#### 3.3.2 IMPEDANCE CURVE FOR REFERENCE



DESIGNED BY	Christopher Pagel	DATE	2023.12.01	PART NO.	HF1-65MS A	INDEX	A
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# HF1-65MS A

Electromagnetic Actuator

## 4. RELIABILITY TEST

TBD

## 5. PACKING

TBD

## 6. HISTORY CHANGE RECORD

REV	CHANGE ITEMS		DATE
	BEFORE CHANGE	AFTER CHANGE	
A0_pre		Initial preliminary version	2023.12.01
A1_pre	Preliminary part name: HF1SA	Part name: HF1-65MS A	2024.03.22

DESIGNED BY	Christopher Pagel	DATE	2023.12.01	PART NO.	HF1-65MS A	INDEX	A
RELEASED BY	Daniel Santella	DATE	2023.12.01				
CHANGED BY	Rabea Richter	DATE	2024.03.22				
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