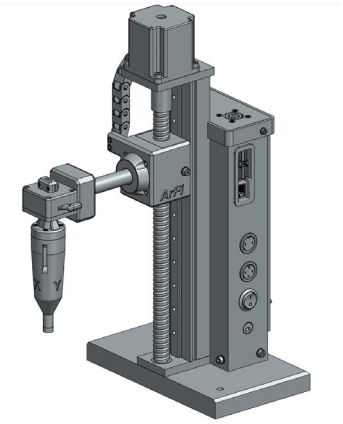

Hamso
ENGINEERING

ArFi Specification



1. DESCRIPTION

The ArFi is a haptic measurement device used for haptic feedback quantification. The ArFi uses an accelerometer and a load cell to establish surface vibrations. The ArFi probe moves in the Z-axis on a linear guide and is controlled with its graphical user interface. The GUI is accessed using the touchscreen (shipped with the ArFi) or using WiFi. Data collected can be visualized on the screen on the device, exported in raw .csv files or visualized in the ArFi Analyser.

The ArFi can be used together with the *CapaFinger and the *HEBO for additional measurement capabilities. The ArFi comes with a 2nd accelerometer, which can be used individually or together with the main finger-probe that is attached to the device. The CapaFinger and the HEBO trigger can be used together using the connectors on the side of the ArFi casing. The ArFi ships with a microphone and a microphone stand to record the sound of the vibration or of a mechanical switch.

ArFi Analyser is the software included in the ArFi package. It is used to analyse the accelerometer/loadcell data and the microphone recordings.

* CapaFinger and HEBO are not parts of the ArFi package and should be bought separately.

2. ARFI SPECIFICATIONS

Parameter	Unit	Conditions / Description	MIN	TYP	MAX
Dimensions	Mm	500x375x415			
Finger Movement	Mm		0.01		100
Load Force	N		0.1		20
Load Resolution	N			0.1	
Acceleration Scale	G	x , y, z axis	-16		+16
Acceleration Resolution	Hz	Single accelerometer		6500	
	Hz	Dual accelerometer		4000	
Frequency Range	Hz		0		20000
Operating Voltage	V			12	
Operating Power	W		15		108
Output Voltage	V	HEBO trigger		3.3	
Outputs		HEBO trigger		1	
Packaging				Flight Case	
Operating Temperature	°C		0		40
Storage Temperature	°C		-20		70
Weight	g			12.000	

Remark:

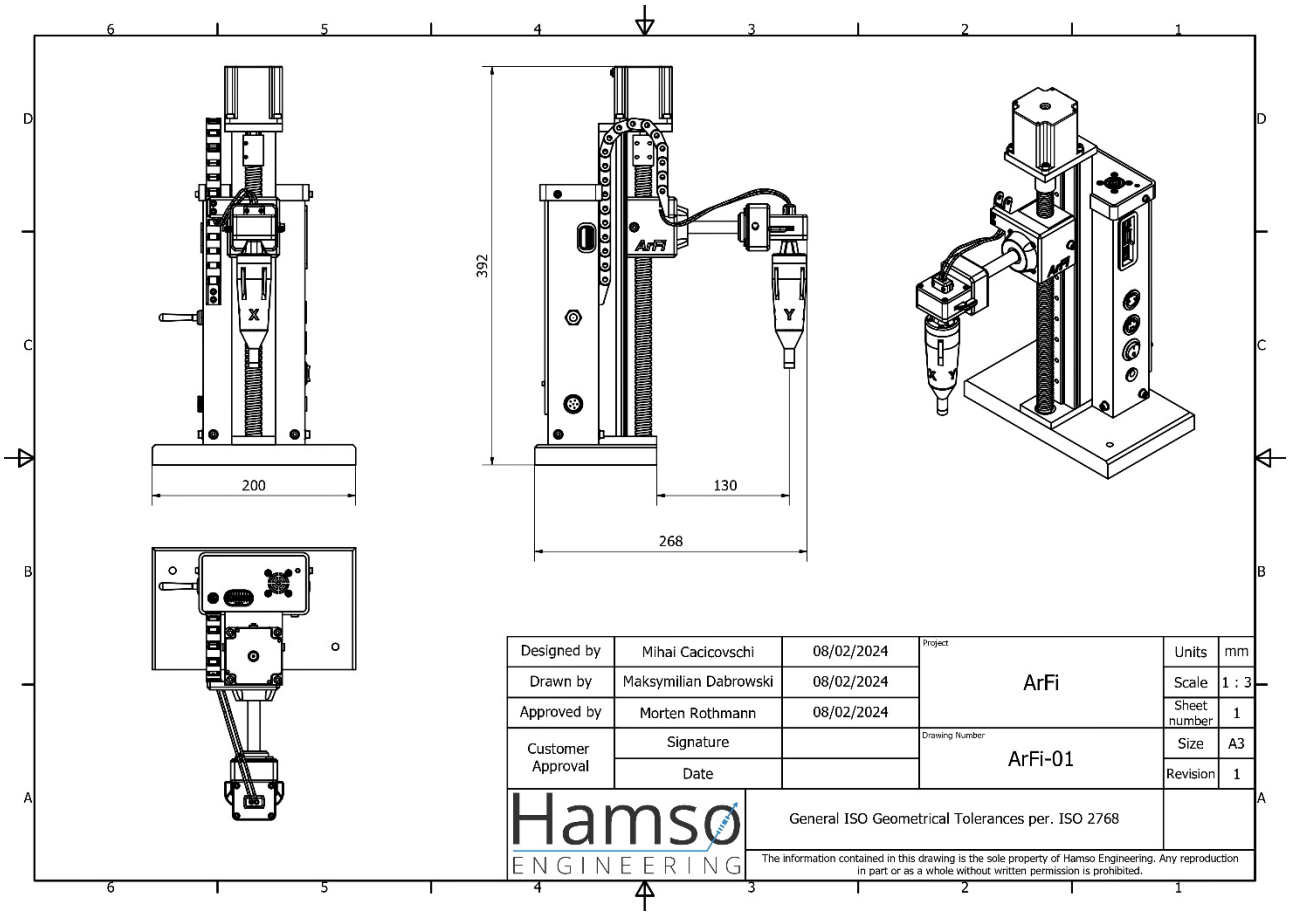
HEBO is not a part of the ArFi package and should be bought separately.

3. MICROPHONE SPECIFICATIONS

Parameter	Unit	Conditions / Description	MIN	TYP	MAX
Dimensions	Mm	22x22x92			
Frequency Range	Hz		60		20.000
S/N	dB			70	
Omnidirectional Characteristic				CARDIOID	
Operating Temperature	°C		-10		55
Operating Humidity	% RH		0		65
Storage Temperature	°C		-20		70
Storage Humidity	% RH		0		95
Weight	g			37	

Remark:
The microphone is intended to be used for haptic feedback quantification. The microphone should be positioned near the device using the microphone stand provided. The sound can later be extracted and visualized in the ArFi Analyser software. The audio is recorded as a .wav file.

4. DRAWING



Designed by	Mihai Cacicovschi	08/02/2024	Project: ArFi	Units	mm
Drawn by	Maksymilian Dabrowski	08/02/2024		Scale	1 : 3
Approved by	Morten Rothmann	08/02/2024		Sheet number	1
Customer Approval	Signature		Drawing Number: ArFi-01	Size	A3
	Date			Revision	1

Hamsø ENGINEERING

General ISO Geometrical Tolerances per. ISO 2768

5. HISTORY CHANGE RECORD

REV	CHANGE ITEMS		DATE
	TYPE	AFTER CHANGE	
1		Initial Version	08.01.2022
2	Review	Updated specs according to Q2 2023	20.06.2023
3	Review	Updated specs according to Q1 2024	09.02.2024

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