

CUÁN WEIJER

INDUSTRIAL DESIGN ENGINEER

From Ireland, based in the Netherlands

ABOUT ME

My name is Cuán Weijer, and I have a strong interest in solving problems on a user-centred level, beginning as a child by taking everything (also sometimes even putting it back together). This developed into an interest in 3D printing and CAD modelling, eventually leading me to study Industrial Design Engineering (IDE).

I am currently studying IDE at bachelor's level at Fontys Venlo, where client-based project work has helped me develop the ability to translate design ideas into practical solutions within professional settings.

I enjoy finding practical solutions focusing on transliting concepts to reality is what drives me.

Languages



Clients

Princess Traveller
Brendz - GP Battery
Medi Chair
Dräger
BIC (Brainport Industries Campus)

Tools + Skills



Planning
Research
Idea Generation
Concept Development
Prototyping
Realisation
Teamwork
Communication

HELLO FRESH

MEDI-CHAIR

Dräger





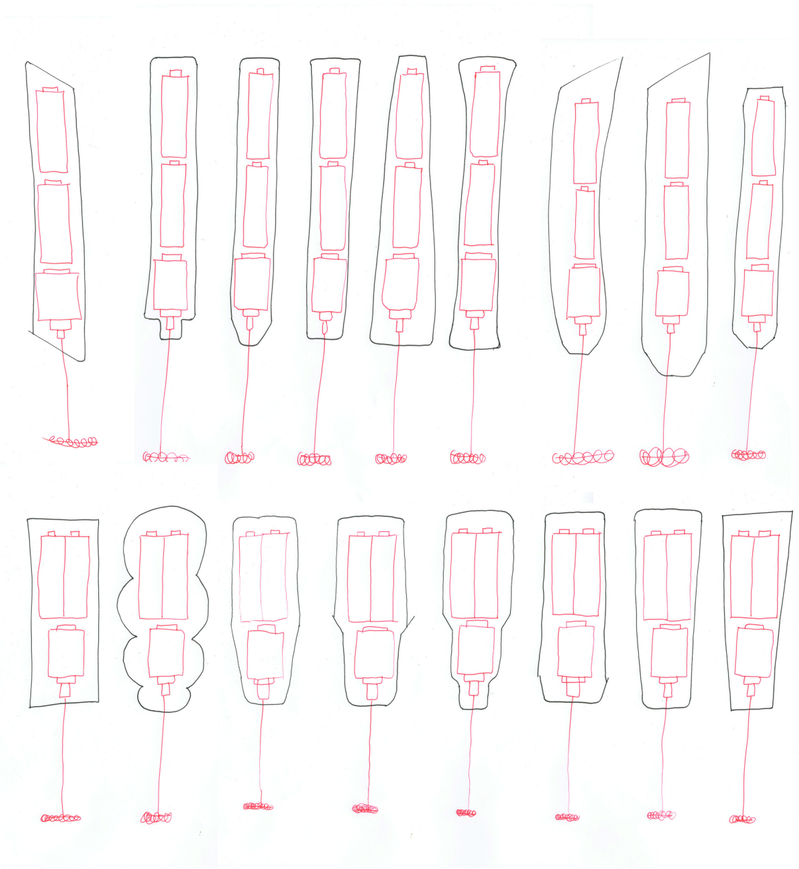


Handheld Milk Frother

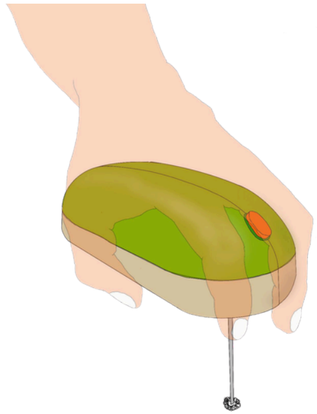
HELLO FRESH

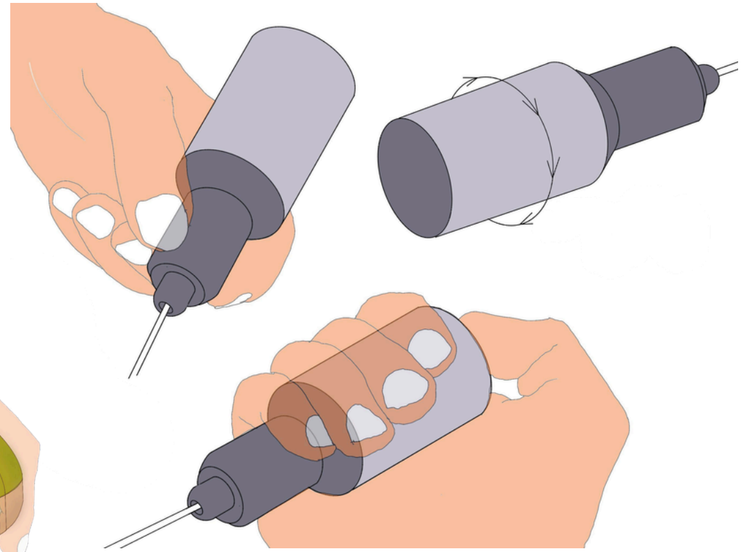


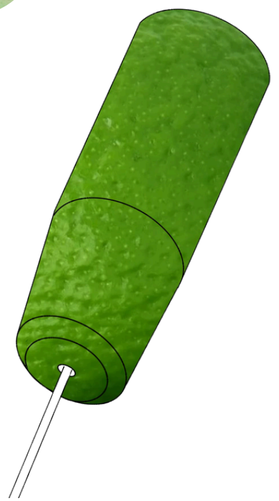
Design Process

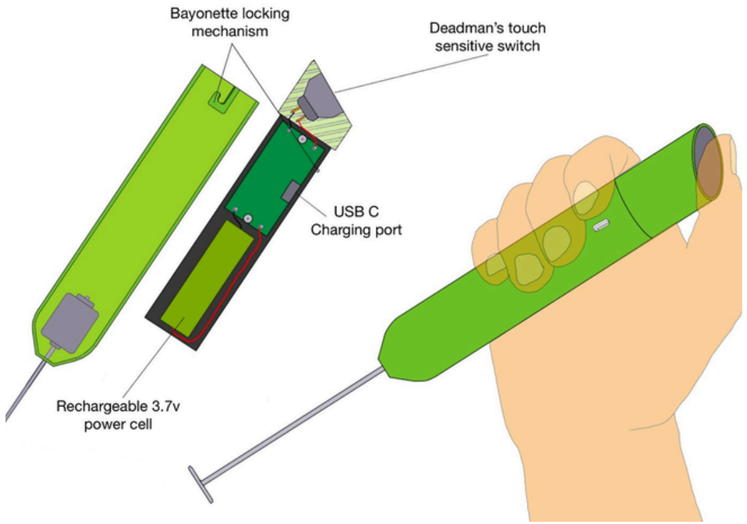












Design Overview

01 Housing

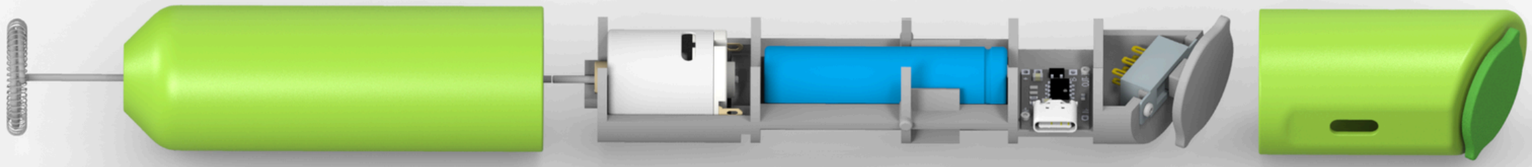
PC-ABS, 2-part injection moulded, **no slides**

02 Motor

Off the shelf DC 160 motor, held in place with screw and alingment rib

03 Li-ion 1500 Cell

Rechargable Li-ion cell 1.7V with PH connector for wiring and recycling



07 Whisk

steel rod + coiled wire spring

06 Components Sled

2 part no slide injection molded part with position of each component

05 PCB

Miniature version of TP4056 li-ion charging PCB featuring USB-C

04 Switch

Simple DPDT slide switch with a custom **POM** switch cover

Technical Justification

3hr Runtime

Battery 3.8 Ah ~ 0.8 A under load X 80% efficiency factor

€6.72 Production Cost

Subtotal + 10% additional costs : €6.72

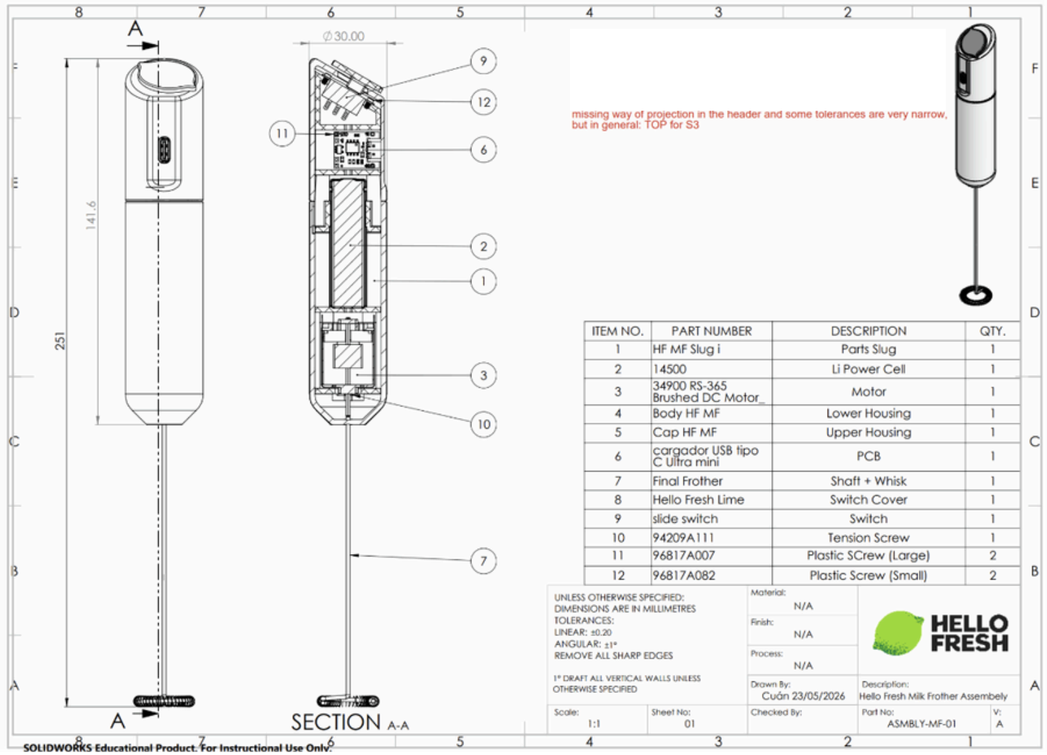
€20 Sell Price

Within sales price from brief: between 15 and 20 euros.

Dimensionally Justified

Whisk strength has a safety factor of 4.3x

PC-ABS yield = 60 MPa. Calculated wall stress in the housing at full grip pressure.



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	HF MF Slug i	Parts Slug	1
2	14500	Li Power Cell	1
3	34900 RS-365 Brushed DC Motor_	Motor	1
4	Body HF MF	Lower Housing	1
5	Cap HF MF	Upper Housing	1
6	cargador USB tipo C Ultra mini	PCB	1
7	Final Frother	Shaft + Whisk	1
8	Hello Fresh Lime	Switch Cover	1
9	slide switch	Switch	1
10	94209A111	Tension Screw	1
11	96817A007	Plastic SCrew (Large)	2
12	96817A082	Plastic Screw (Small)	2

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN MILLIMETRES
TOLERANCES:
LINEAR: ±0.20
ANGULAR: ±1°
REMOVE ALL SHARP EDGES
1º DRAFT ALL VERTICAL WALLS UNLESS OTHERWISE SPECIFIED

Material: N/A
Finish: N/A
Process: N/A
Drawn By: Cuán 23/05/2026
Description: Hello Fresh Milk Frother Assembely
Scale: 1:1
Sheet No: 01
Checked By:
Part No: ASMBLY-MF-01
V: A

HELLO FRESH

MEDI-CHAIR

A chair-mounted traction system designed to stabilise fractured limbs and empower clinicians to perform closed reductions - alone.

3 months | Group Project | Traction System Lead



What does it do?

Allows the **repositioning** of the **radius** when **fractured** by putting the arm in traction this is done **converting rotational motion to linear motion** in discreet, measurable intervals. This redesign allows the procedure to be conducted by one physician.

How is it done?



Chinese finger traps applied to the thumb and index finger.

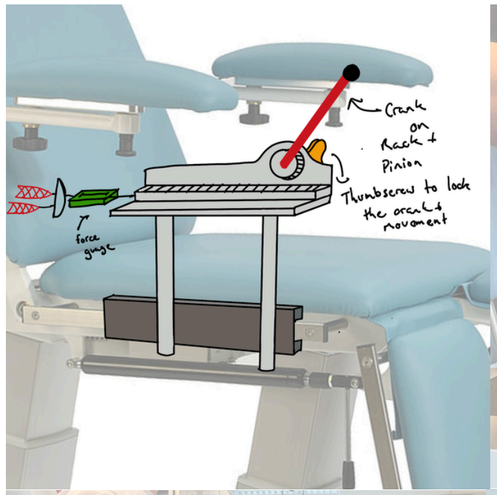


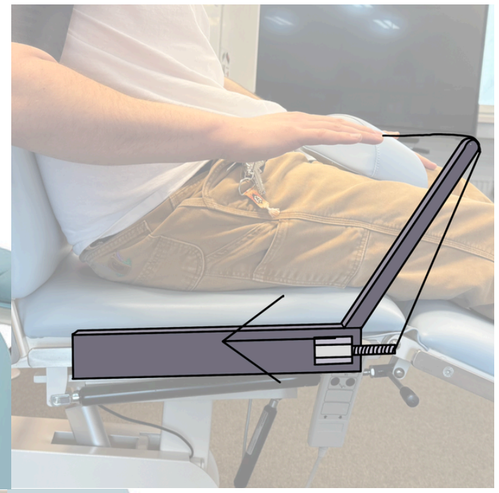
Traction weight attached and gradually loaded to apply controlled tension.

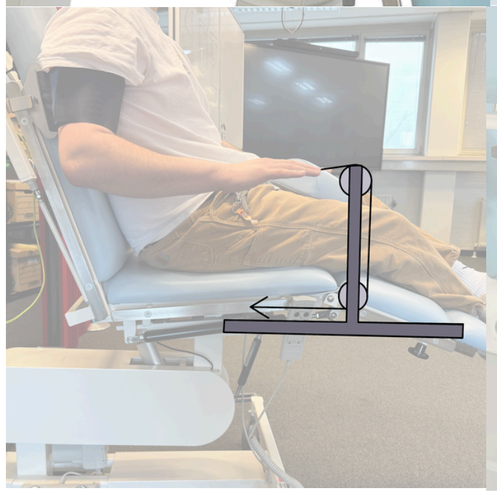


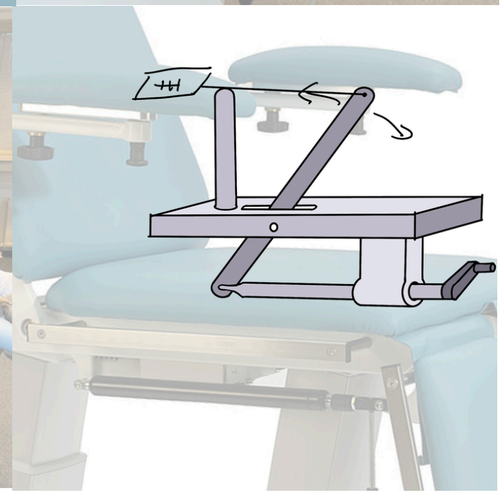
Cast applied to maintain alignment after successful reduction.

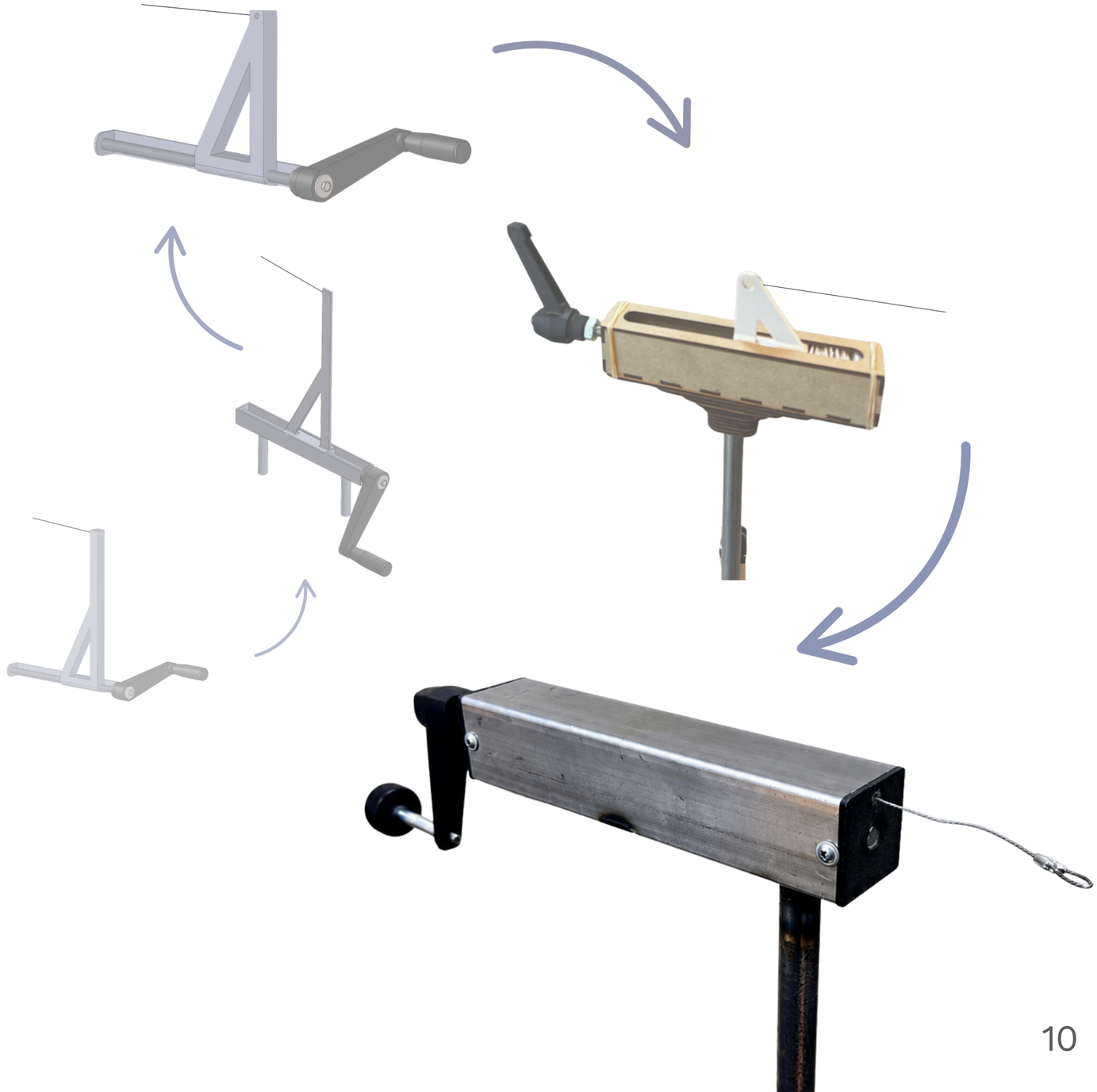
How was it developed?



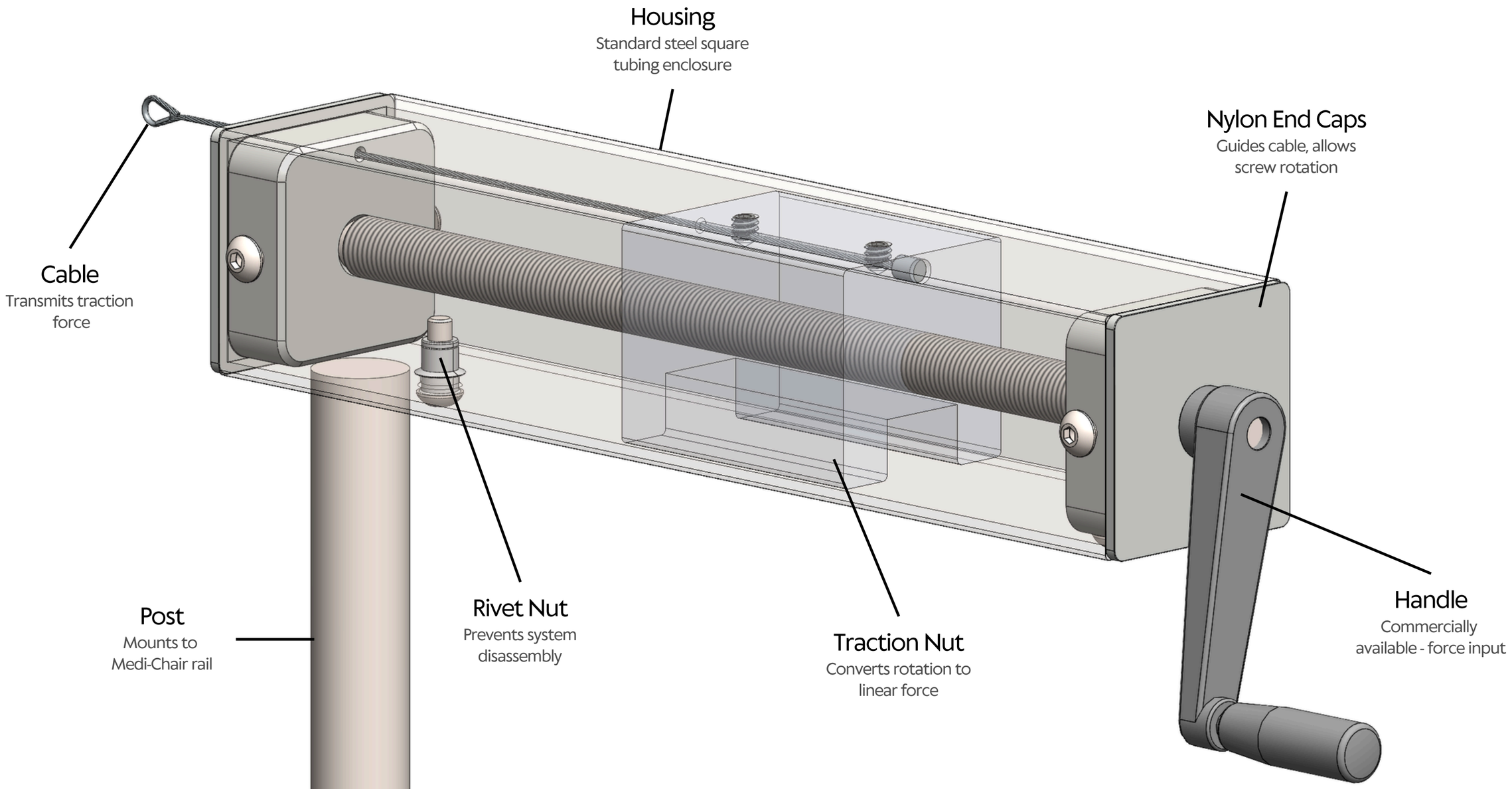








How does it do it?



Dräger

Interlock® 7500

Mouthpiece of the future

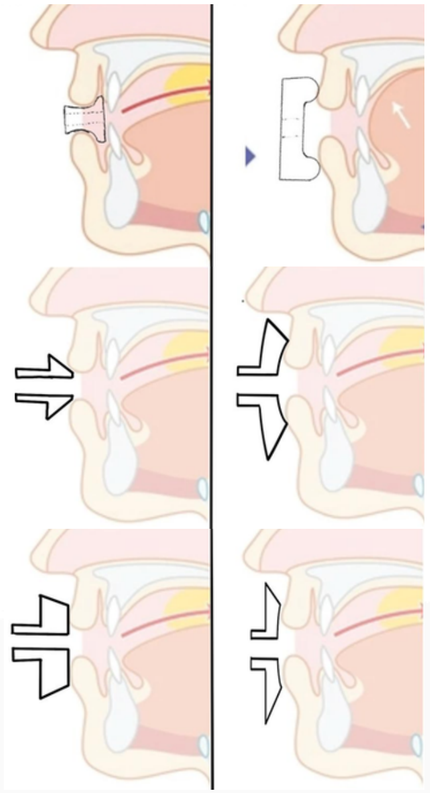
The Interlock **prevents a vehicle from starting** until the driver provides a **breath sample below the legal limit.**

My group’s **redesign** of the device **improved ergonomics and adaptability** — but increased the **mouthpiece's visual presence,** making discretion a critical **unresolved challenge.**

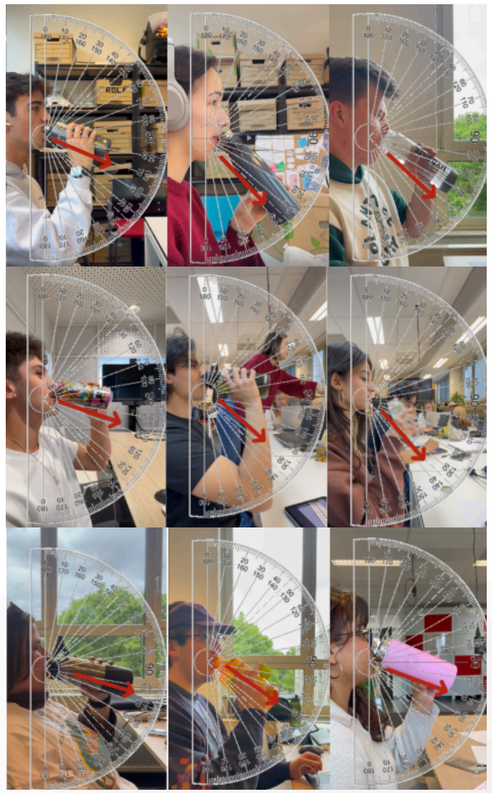


Development

Anatomical Exploration



Approch Angle Identification

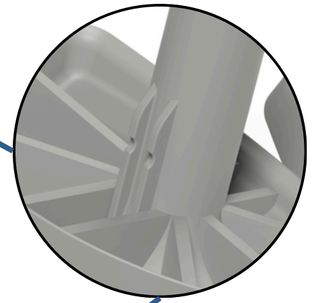




Design Features

Attachment

Split rib on the tube constrains rotation and signals correct orientation, the click finger provides audible confirmation.



Material - PHA

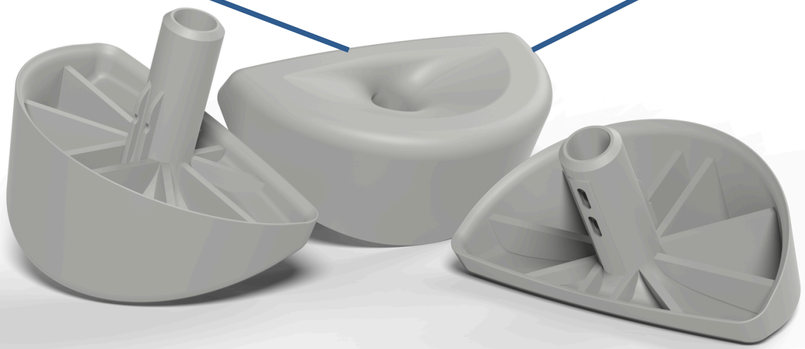
Industrially compostable, food-safe, heat-resistant to ~ 80°C.

LIp cavity

Profile derived from adult-male anatomical data — consistent lip contact across users, justified seal geometry.

Body

32° front plane (from user testing). Outer surface offsets directly from the device shell for a continuous read.





Technical Justification

Mould Flow Analysis

1 Injection Pin | 2 Mold Parts | 1.33s Fill Time

Technical Drawings

Signed Off

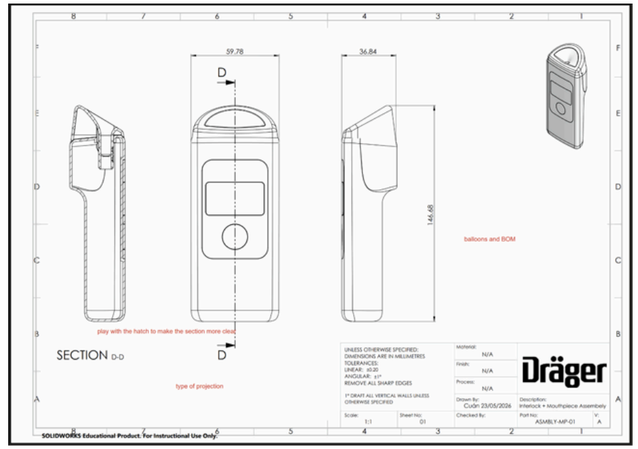
Cost price

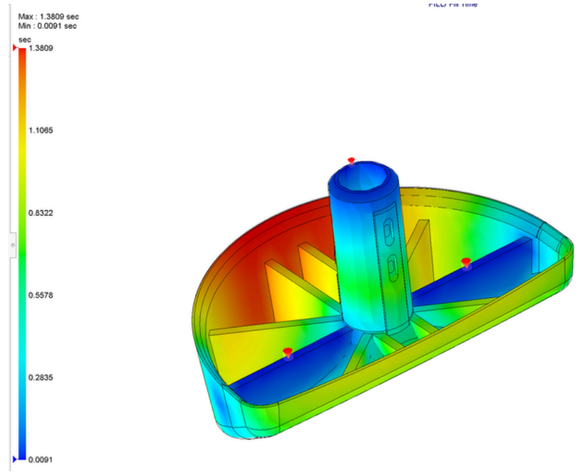
Material Cost	9.48 g x €2.72/kg (PHA Dec '25)	**€0.03**
Machining Cost	$64,434 mould / 500,000 1-nits	**€0.11**

Justificiation of Dimensions

Current finger **13%** of required strength

Suggested dimensions have appropriate safety factor





LETS HAVE A CHAT!

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