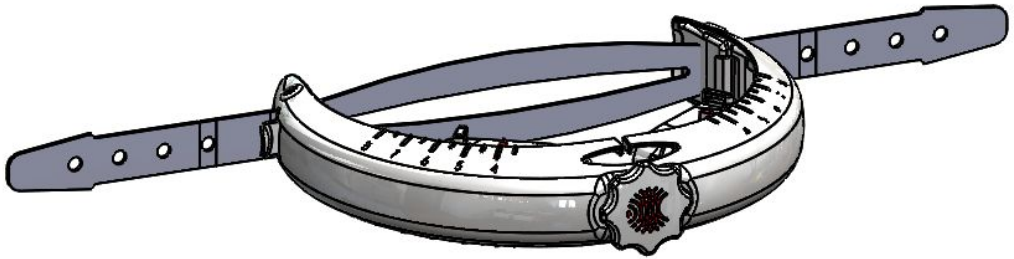
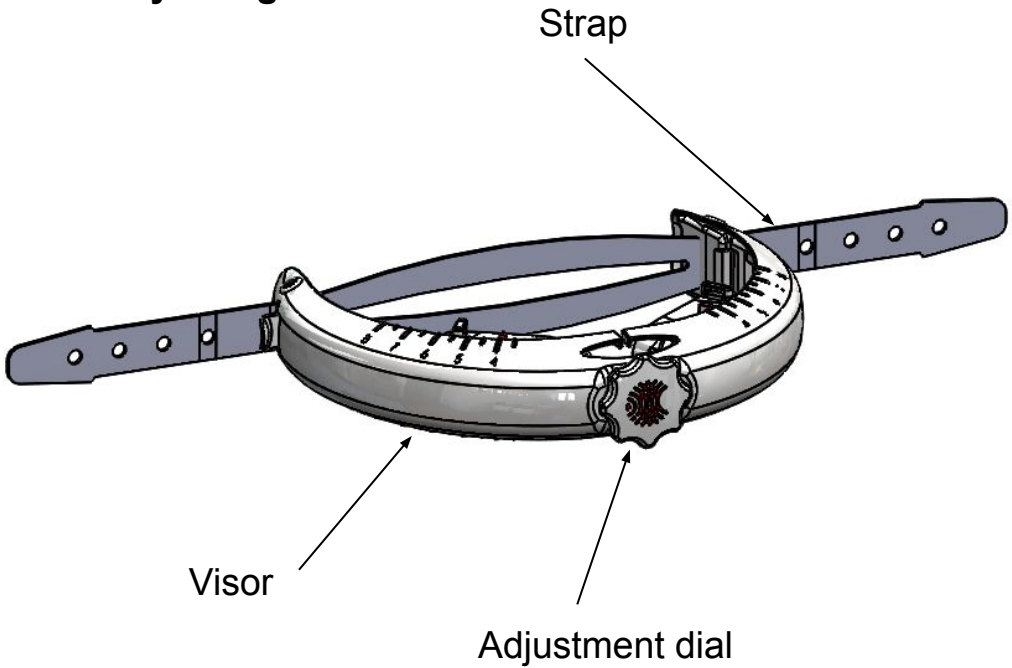
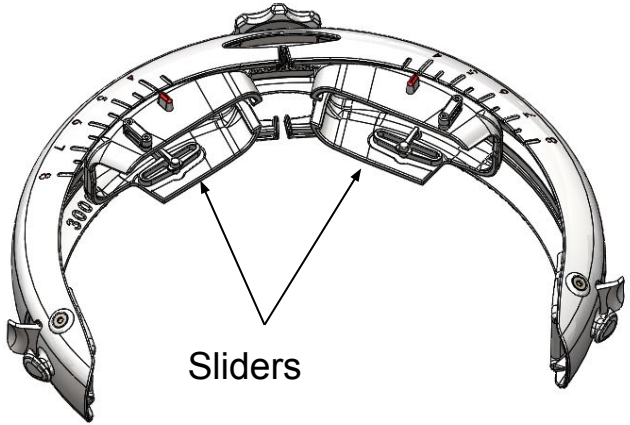
Openwater
7000-0235
Visor Assembly
Design overview

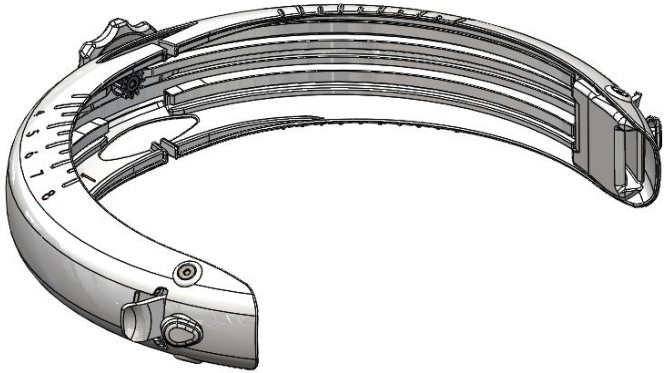


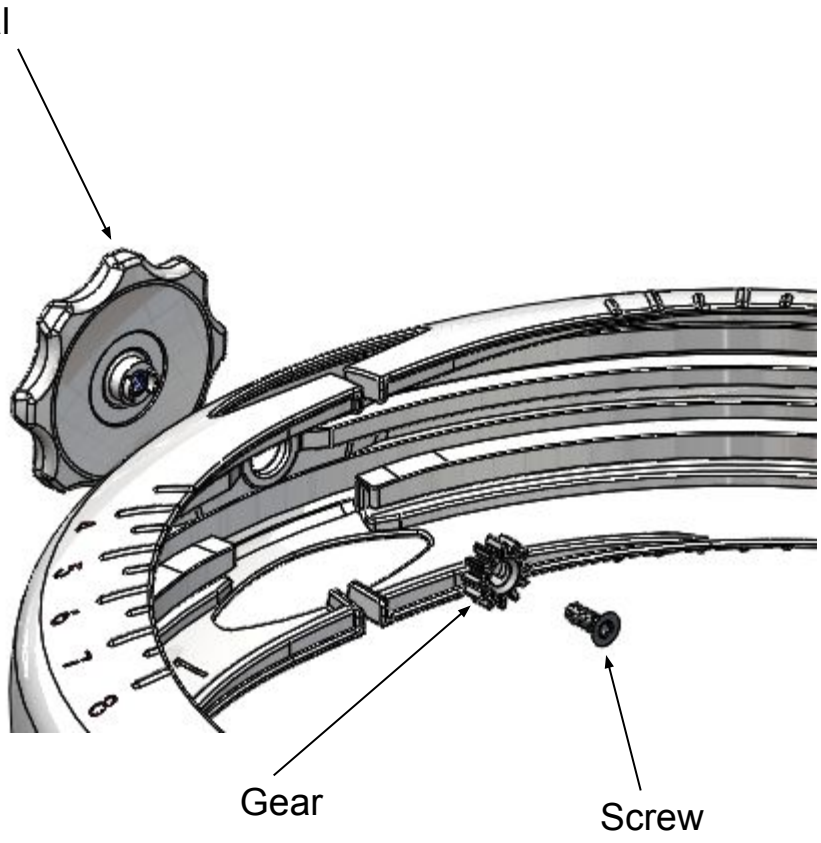
Preliminary design overview





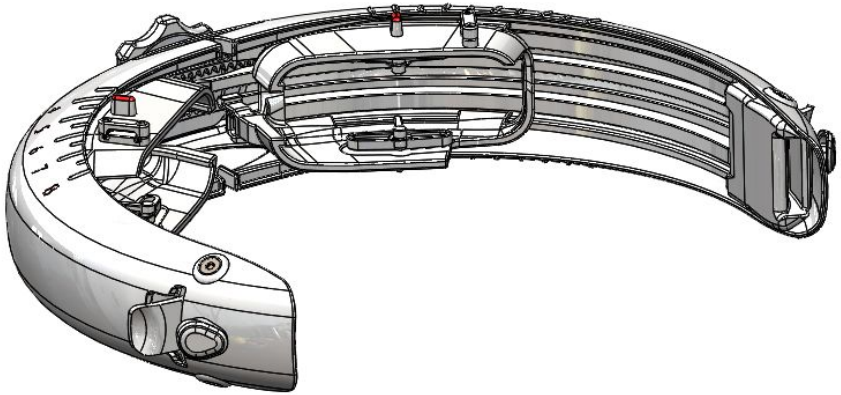
Preliminary design overview

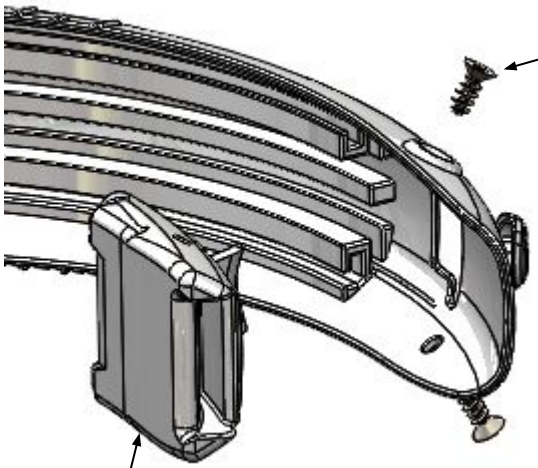




The adjustment dial drives a simple rack mechanism, which positions each of the Sliders symmetrically on the head

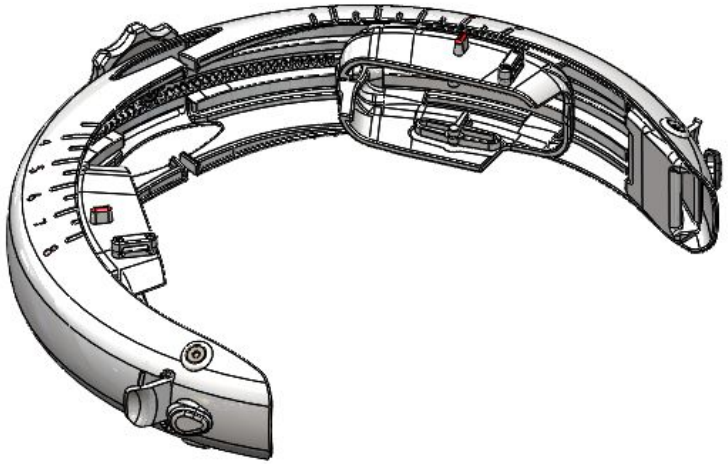
Preliminary design overview

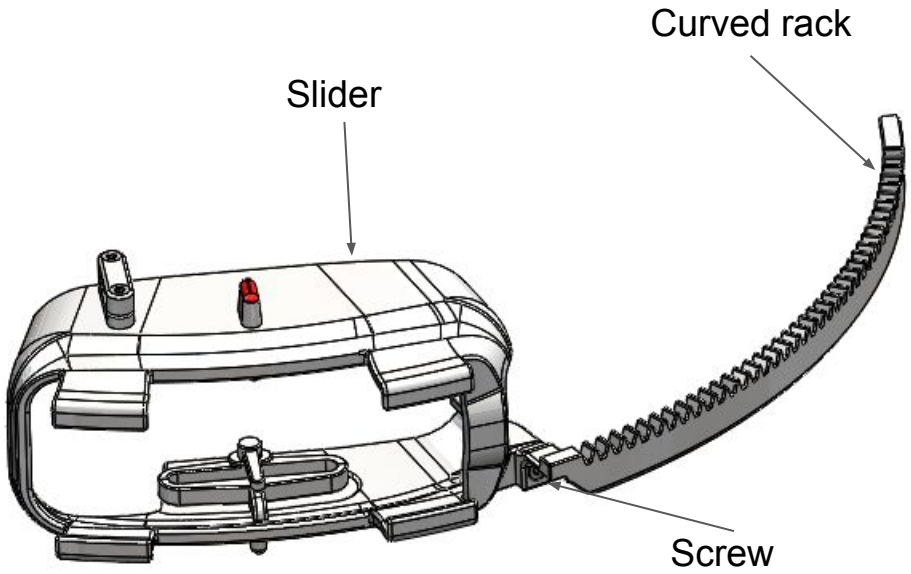




The headset strap threads through each strap latch. The latch has a flexure mechanism, which holds the strap in place. Then the flexure is pushed by the user, the strap tightness can be adjusted

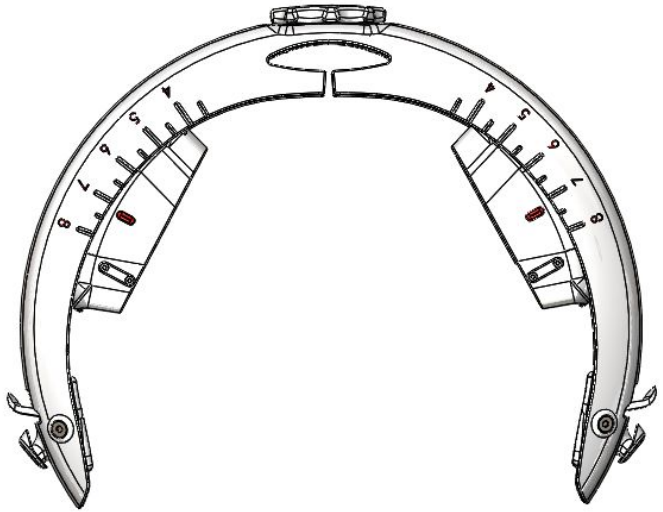
Preliminary design overview

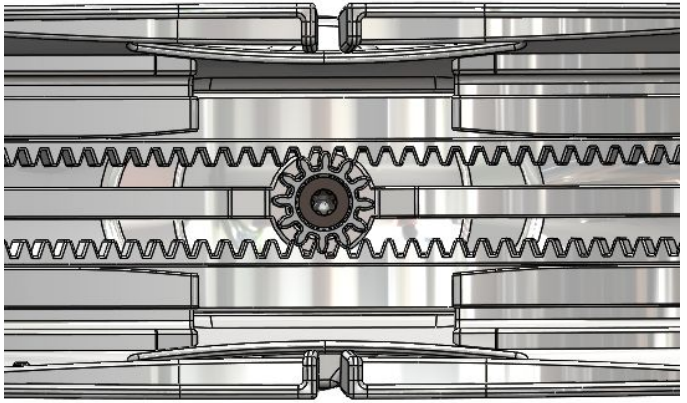




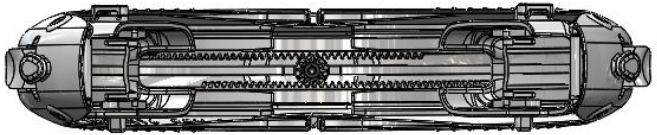
Each Slider mounts an optical module (not shown), which performs the measurement. The Left and Right sliders are mirror images of each other. Each is connected to a curved rack, which is guided within a track in the Visor, and is driven by the Dial.

Preliminary design overview





Rack and Gear detail



Custom component fabrication summary

Note that part numbers are subject to change

PN	Description	Fabrication method	Material	Finishing
3000-0516	VISOR	SLS	NYLON 12, WHITE	LEVEL 4 PAINT, SEE DWG
3000-0529	SLIDER, LEFT, MCA	SLS	NYLON 12, WHITE	LEVEL 4 PAINT, SEE DWG
3000-0535	CURVED RACK	SLS	NYLON 12, GLASS FILLED	NONE
3000-0522	CABLE CLAMP	SLS	NYLON 12, WHITE	NONE
3000-0536	SLIDER, RIGHT, MCA	SLS	NYLON 12, WHITE	LEVEL 4 PAINT, SEE DWG
3000-0640	STRAP LATCH, LOW PROFILE	SLS	NYLON 12, WHITE	NONE
3000-0661	GEAR, V2	SLA	RIGID 4000	NONE
3000-0662	DIAL, V2	SLA	RIGID 4000	LEVEL 4 PAINT, SEE DWG. INSTALLATION OF 1 THREADED INSERT
3000-0543	STRAP, HEADSET, SHORT	FLAT PATTERN CUT	50A SILICONE SHEET	PARYLENE COAT
3000-0664	HOUSING, AGGREGATOR, BODY	SLS	NYLON 12, WHITE	LEVEL 4 PAINT, SEE DWG
3000-0665	HOUSING, AGGREGATOR, LID	SLS	NYLON 12, WHITE	LEVEL 4 PAINT, SEE DWG

Inspection

Visual inspection of assembly, e.g. all screws present and torqued, free of damage, all paint intact, no loss of red marks

Check that any module mounting features are still intact (current design has some delicate flexure elements; we may change this before final manufacturing)

Check the adjustment mechanism

- No wobble in dial
- Smooth adjustment with no binding
- Sliders cannot freely fall/slip along the visor (there is some resistance to movement, just enough to keep the assembly stable when it’s not being actively adjusted)

Check the strap latches

- Latches hold the straps secure when pulled
- Straps can slip through the latches when the flexure lever is depressed