ENGINEERING PRECISION

For medical equipment, good design is more than comfort & ergonomics.

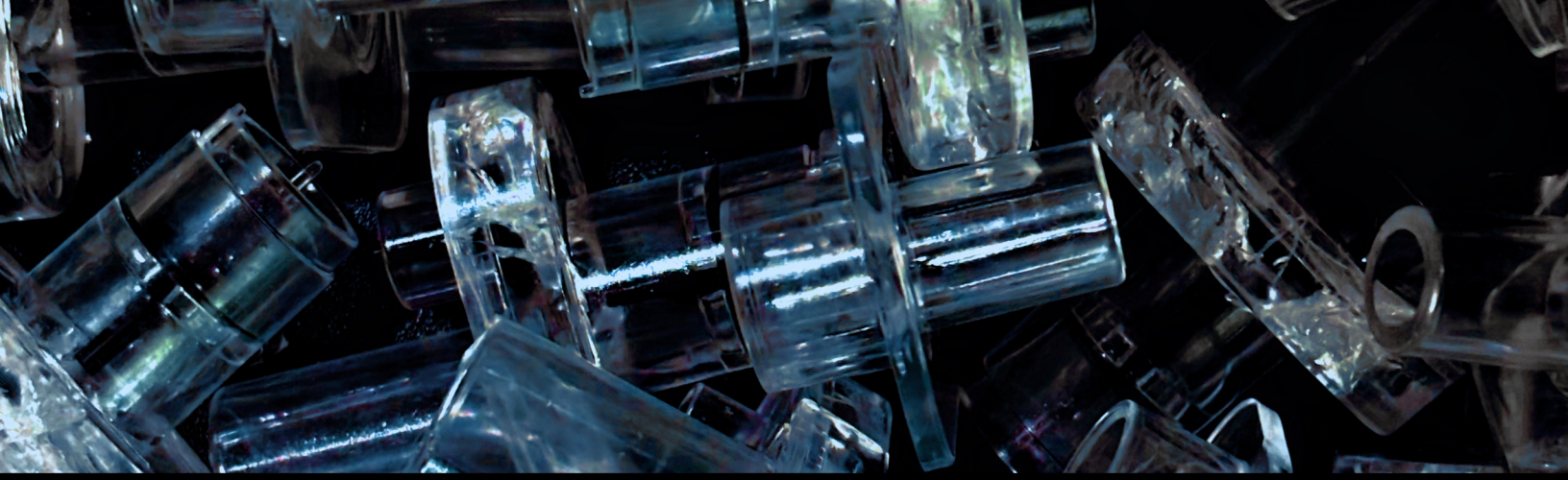
These are machines that deal in micro-metrics – extreme tolerances with no acceptable margin of error - where engineering design rules.

Future Factory's in-house team was able to painstakingly precision-engineer Steryl, a grade 1 medical device used in orthopaedic surgery- making us the first company in India to design & manufacture pulse lavages, with everything from mechanical ideation to tooling and production at scale.

PROTOTYPING & POCS

The pump is the polycarbonate heart of the device, oscillating at 3000+ rpm to build the correct pressure needed to perfectly abrade the bone to the right depth. Proving the engineering is critical.

To this effect, the internal team tested everything. From quick and dirty prototypes for early mechanical ideas, to electrical motors and voltages that deliver consistent performance, all the way to fully moulded precision prototypes to ensure manufacture & assembly tolerances. Different material grades were experimented with. When the grade ideal for performance came out to be sensitive to UV light and moisture, Future Factory outlined a special transportation and storage procedure to ensure the end-product is uncompromised.



ERGONOMICS

Surgery is high accuracy work. Majority of our design ideation revolved around making Steryl comfortable to use and as easy on the hands as possible.

Variations in grip designs for Steryl emphasised differences in the angle of the grip, presenting multiple options and testing them for user fatigue.

Weight distribution also contributed to surgeon fatigue. The team played with design options to redistribute this weight. The final design optimises manufacturing complexity, grip and weight distribution, making the top lighter and easier to manoeuvre than any similar device in the market.

Finally 50 fully functional working prototypes were handed over to surgeons for user validation.

The response has been fantastic…