

SCIENCE SHELL

TYPE-XII

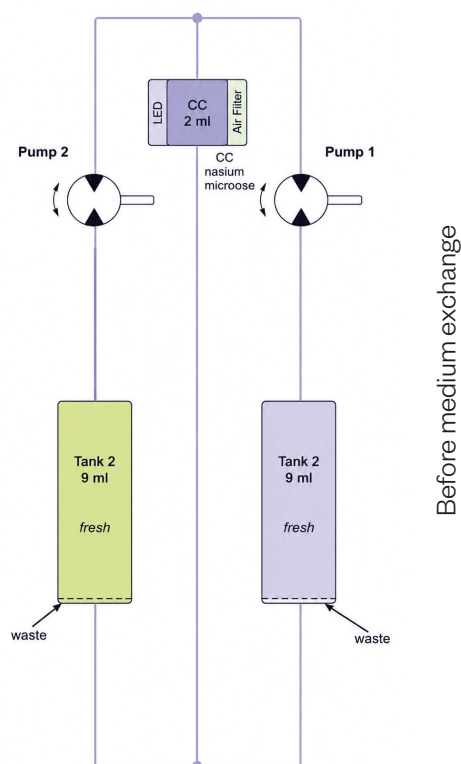
Our Bioreactor Type-XII ScienceShell

Currently operational on ISS in ScienceTaxi BioSpin

The Type-XII ScienceShell features **state-of-the-art lensless microscope (Yuriscopes)** attached to the small culture chamber with two different tanks for the nutrient refreshment and fixation. The **medium exchange cycles and microscopic image acquisition are automatically controlled** through the ScienceShell's onboard electronics and programmable schedule, ensuring fully autonomous operation during experiments in space or on Earth. The tanks and culture chambers are modular design and can be adjusted to the required volume for any specific experiment.



- Compatible OuterShell: 448
- Automation Level: Fully Autonomous
Operation Type: Active
- LoC: 3** ; 1 (InnerShell) + 2 (OuterShell)
- Maturity: Spaceflight Proven (**TRL 9**)
- Last mission: HUMB
- Material of CC and Tank: Biocompatible photopolymer resin
Manufacturing Process: 3D Printed and Assembled by Yuri
- Number of CCs: 1
Number of Tanks: 2
- Volume of CC: 2 ml
Volume of Tanks: 9 ± 0.5 ml each
- Medium Exchange:**
By: Yuri Fluidic Pumping System
NOs. of exchanges: 2
Duration of exchange: ~ 3 minutes each
- Qualified Fixatives: Paraformaldehyde(PFA), RNAlater, Notoxhisto
- Compatibility of Facility: **ScienceTaxi Haven-1, ScienceTaxi BioSpin, SABL, Kubik**, through ScienceBox (TangoLab & IOE Cubes)
- Advanced accessories: **Yuriscopes** (Lensless Microscope), LEDs
- Already flown biological material/cells: NA



For any additional information regarding other fixatives and suitable biological material please contact Yuri.