Takagawa Lab.

[Going Freely to the New Big World]

Underwater Technology Research Center

http://underwater.iis.u-tokyo.ac.jp

Subsea Technology

Dept. of Ocean Technology, Policy, and Environment, School of Frontier Sciences

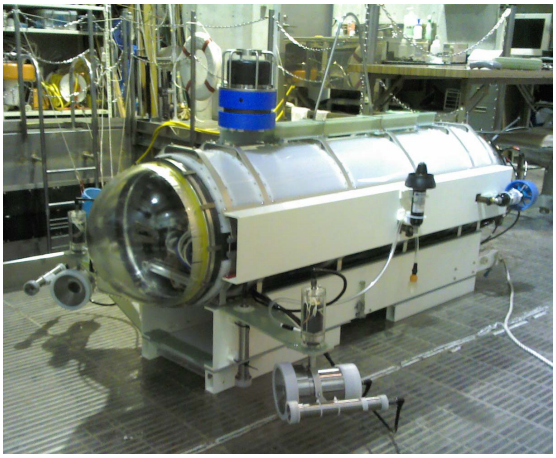
New World under the Sea

Go Freely to the New Big World in the Sea and Under the Sea Floor

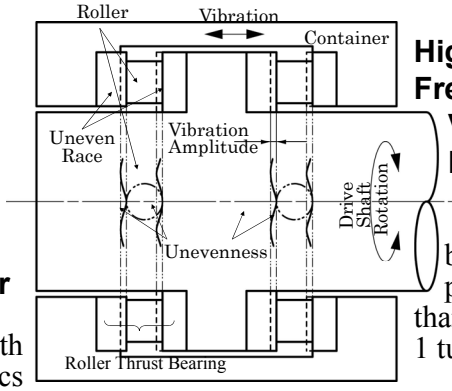
Under the sea/seafloor, there is a big new world, and it is eagerly expected to visit there without any burden. In order to visit this world freely, TAKAGAWA laboratory is developing new technology of light-weight pressure vessel which shall become basement for any robots and sensors. Also, researches on new method to grasp the detailed distribution of natural resources under the seafloor and on new and simple mechanism of drilling is underway.

Integrating these works, total design of recovery system of resources is also underway.

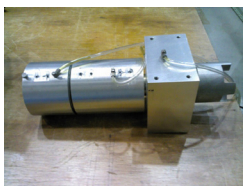
Small Ceramic Pressure Vessel
Overall Length: ab.40cm
Normal Max. Pres.118MPa



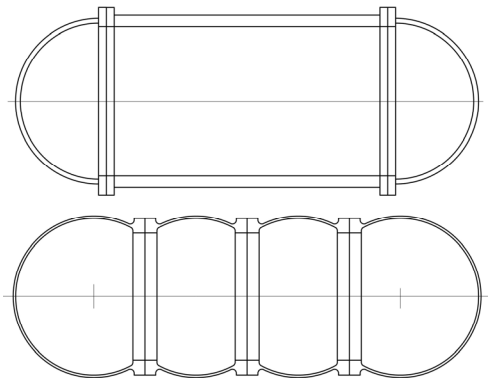
Jellyfish Catcher
Cylindrical Pressure Vessel with Ceramics Glass Domes Outside Cameras and Lasers



High Frequency Vibration Mechanism
Cam with Thrust bearing can produce more than 10 turns by 1 turn of shaft.

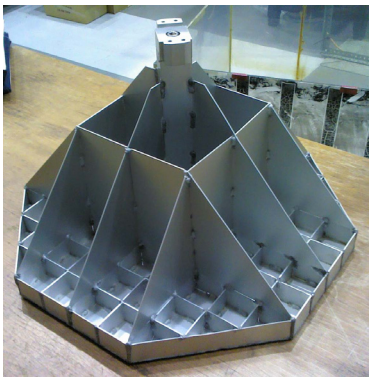


Vibrator
Combination of two vibrators can make the amplitude adjustment of the vibrator.



Multi-Spherical Pressure Vessel for Light Weight

- Sphere array has large un-used space.
- Cylindrical Pressure Vessel is heavy.
- Multi-Spherical Pressure Vessel can make the un-used space small, and the weight light.



Applications
Vibration of a plate gives a strong sound in water.
Hammering bit on vibrator can give strong hammer-drilling capability at the bottom hole directly.