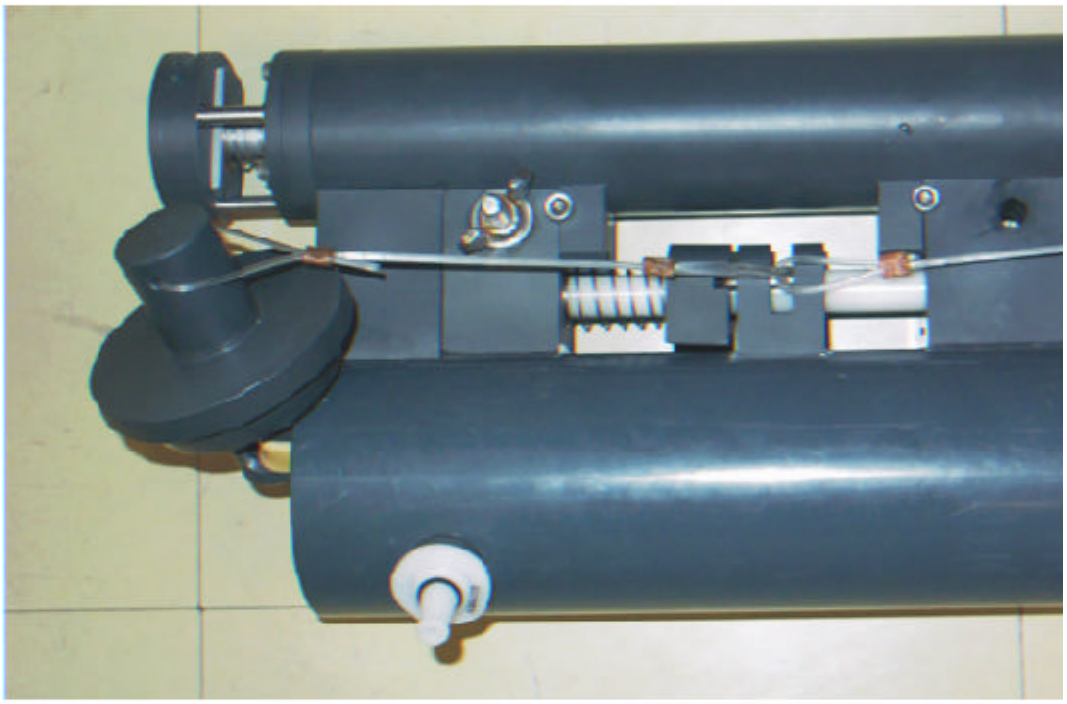
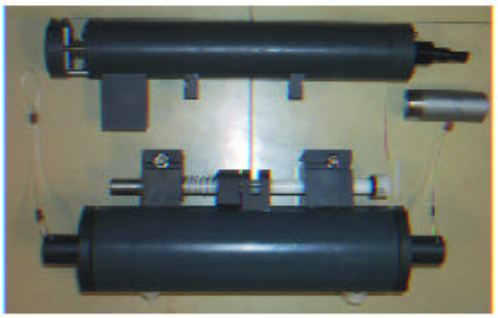
AUTTLE™

Programmable Water Sa





Assembled AUTTLE for automatic operation (upper), detached control
time setting unit (ATU-100), and sampling procedures (lower)

Seawater sampling is the primary task for the study of marine-environmental parameters that require shipboard or laboratory experiments for their analyses, and is also required for *in-situ* calibration of some instruments.

The AUTTLE, a programmable water sampler, is designed for seawater sampling in predicted storm periods. It was developed with special

The AUTTLE c
and its control
of manual usin
control part.

A splash-proof
clock, sampling
first and secon
battery voltage

Which kind of turbidity sensor do you use
How do you convert the turbidity to SS concentration

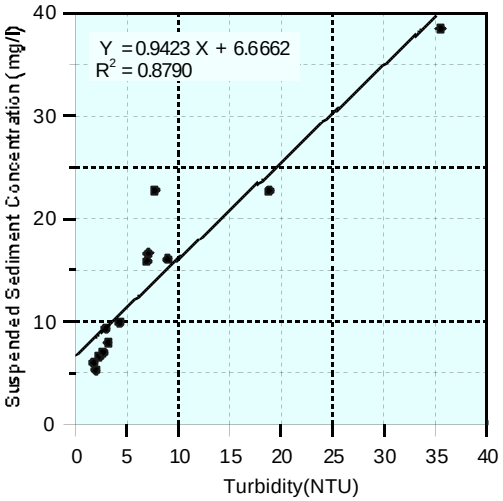


MooringconfigurationandretrievalofAUTTLEs,YSI6600andRCM9, andretrievalofatripodsystem,the BenthicSPHINX instrumentedwiththreeNobska'sMAVSs,oneSontek'sADV,threeD&A'sOBS-3s,oneAanderaa'sWTR9,oneSeatek's dual-frequencyaltimeter,andfourAUTTLEs.

Whichkindofturbiditysensordoyouuse? Optical backscatteringsensor(OBS)? Transmissometer? Oracousticbackscatteringsensor(ABS)? Asyou know,alltheiroutputssuchasvoltage,NTU,FTU, acousticsignalstrengthanddBshouldbecalibrated withtheconcentrationofsuspendedsolidsforthe quantitativestudyonthesedimentaryprocesses.

Howdoyoucalibrateyourturbiditysensor? Doyou calibrateitbywetexperimentwithbottomsediments? Alltheturbiditysensorshavetheirowninherentcha- racteristics.Forexample,thegain(voltspermg/l)of anOBScanvarybyafactor of200accordingtopar- ticlesizeandtheslopesignoftheregressionline changesatcertaincriticalconcentrationduetothe blockingofinfraredradiation(D&AInst.Co.,1991).

Thus,ithasbeenaddressedthatturbiditysensors shouldbecalibrated *insitu*,especiallyinnonhomo- geneoussedimentaryregimes.



CorrelationbetweentheturbidityfromtheYSI6600 andSSconcentrationfromtheAUTTLEs(Jinetal., 2000)

TheAUTTLE caneffectivelyserveforthe *in-situ* calibrationofturbiditysensors.Jinetal.(1999,2000) calibratedtheOBSofamulti-parameterwaterquality monitor,theYSI6600withseveralAUTTLEs, *insitu*. WiththeAUTTLEs,theKORDI(2000)alsoreliablycalibratedtheD&A'sOBSequippedtoaninstrumentedtripod.

Furthermore,bymooringofseveralAUTTLEs,wecanestimatesedimentfluxbygrainsize,whichwillbeofhelp forpredictionofthechangeinsedimentaryfacies.

Specifications

Material:	PVC
Dimension:	Bottle 300mm, ϕ72.5mm, Circuithousing 300mm, ϕ45.0mm
Samplingvolume:	1liter
Weightinair:	3.84kg
Power:	one9-voltalkalinebatteryandcondenser,operatingvoltage50volts, Currentconsumptioninstanding <10 μA

References

D&AInstrumentCompany,1991.InstructionmanualofOBS-1&3.41p.

Jin,J.-Y.,K.C.Hwang,J.S.Park,K.D.YumandJ.K.Oh,1999.Developmentofatime-selectiveself-triggering water sampler anditsapplicationto *in-situ* calibrationofaturbiditysensor. *J.KoreanSoc.Oceanography*,34(4):200-206.

Jin,J.-Y.K.C.Hwang,J.S.Park,Y.-S.Eo,S.E.Kim,K.D.YumandJ.K.Oh,2000.Newandimprovedtime-selectiveself- triggering watersampler:AUTTLE. *OceanRes*.,22(2):57-67.

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