BESST INC.
GLOBAL SUBSURFACE TECHNOLOGIES

ZONE ISOLATION SAMPLING TECHNOLOGY™

ZIST™ (Patent Pending)

In-Line Well System: For New Wells of Any Diameter
RetroWell System: For Retrofitting Wells of Any Diameter

What is ZIST™ ?

Pump seated in 2” Well Screen Receptacle (without riser pipe).

BESST’s ZIST™ (patent pending) is the most economic and versatile monitoring well system for isolating the well screen, eliminating drawdown, and reducing purge volume. ZIST™ provides verifiable isolation of the well screen when the pump is docked in the Well Screen Receptacle (located between the well screen and riser pipe). The pump can easily be removed from the well for maintenance or use of other monitoring devices.

Pump retracted from 1” Well Screen Receptacle.

ZIST™ In-Line Well System
(2-Inch)

Pump with docking weight and perforated "sipping tube".

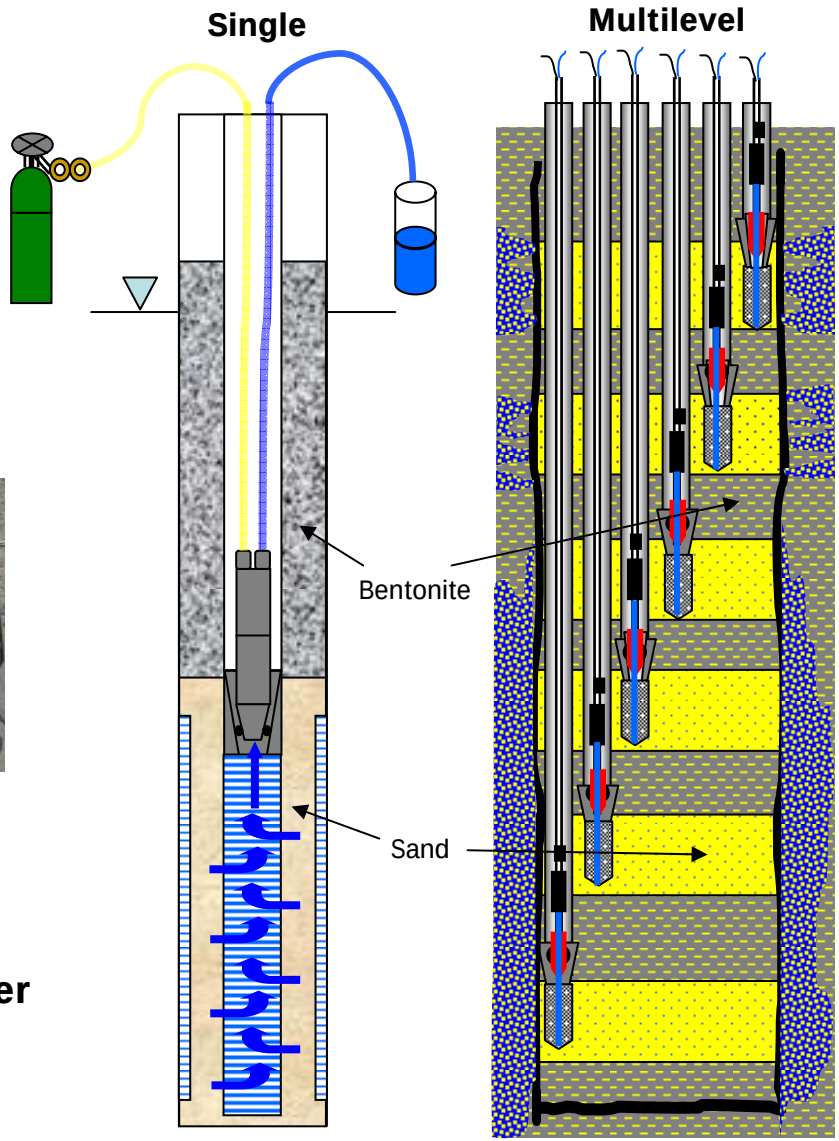
Pump seated in the Receptacle above the screen.

ZIST™ system assembled. Pump is lowered into Receptacle from ground surface after the well is installed.

The pump seats against the Receptacle collar. Receptacle pass-through is wide.

ZIST™ Single and Multilevel Installations

ZIST™ In-Line Wells are available in all diameters. Smaller wells require smaller boreholes, lower well development costs, lower capital costs, and lower operating costs. Installed with conventional methods (sand and bentonite, or packers), ZIST™ In-Line Wells can be used for shallow or ultra-deep (to 3,000 feet) single or multilevel configurations.

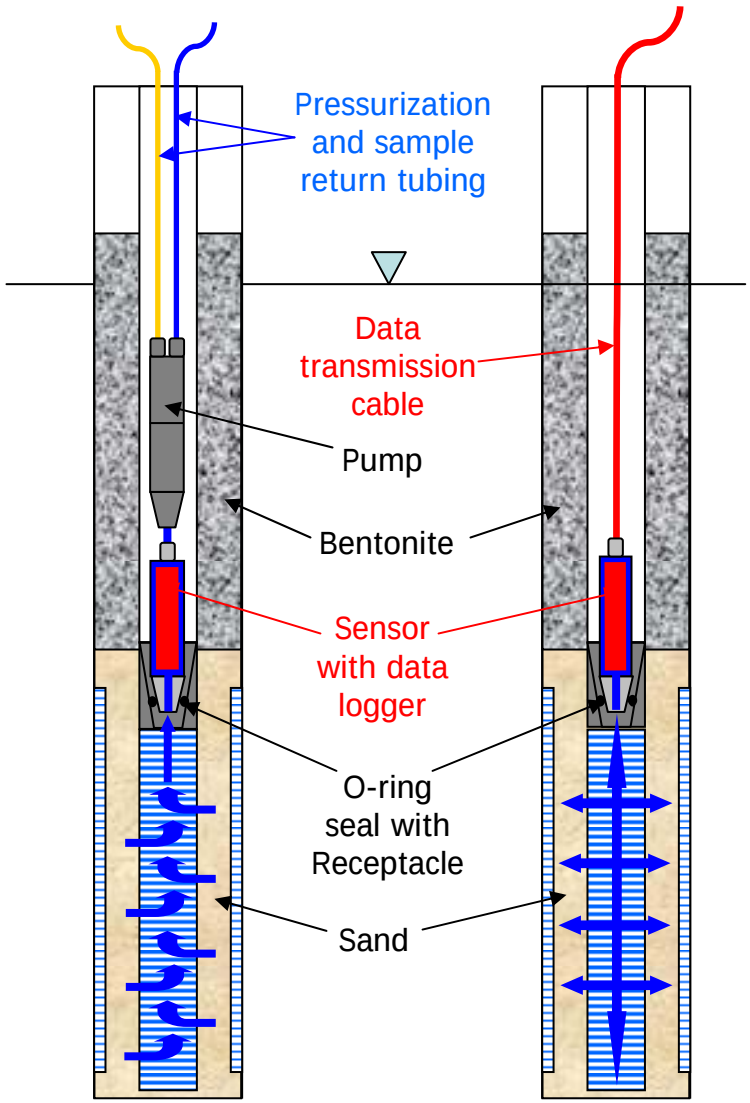


Simultaneous Control Unit for multilevel systems.

BESST multilevel system with integrated fiber optic water level sensors.

ZIST™ Sensor Integration

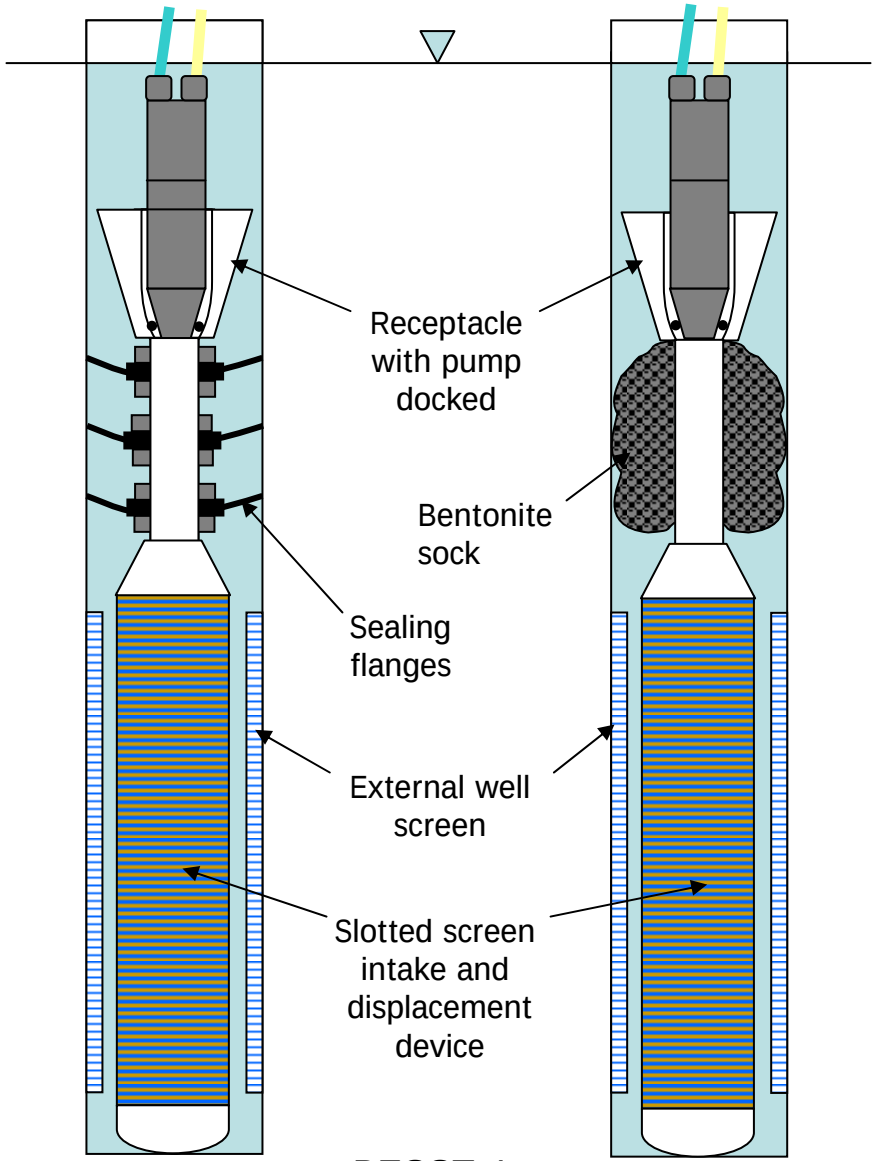
Sensors placed in-line with the ZIST™ pump create a down-hole flow cell when the pump is operating. When the pump is not operating, the sensor detects parameters under static conditions in the Well Screen and groundwater formation only.



Electronic down-hole sensors with data loggers, or fiber optic sensors, are integrated with ZIST™ Wells for pore pressure, temperature, conductivity, and other monitoring. <u>Only parameters within the Well Screen and formation are monitored.</u> Riser pipe water does not come into contact with the sensors.

ZIST™ RetroWell Systems

ZIST™ RetroWell technologies are the most cost-effective way to convert existing 2", 4" and all other wells into efficient, integrated monitoring and sampling systems. BESST provides multiple temporary or permanent isolating methods. <u>Samples are taken from the entire Well Screen</u>, not only from the top of the inserted screen and displacement system.



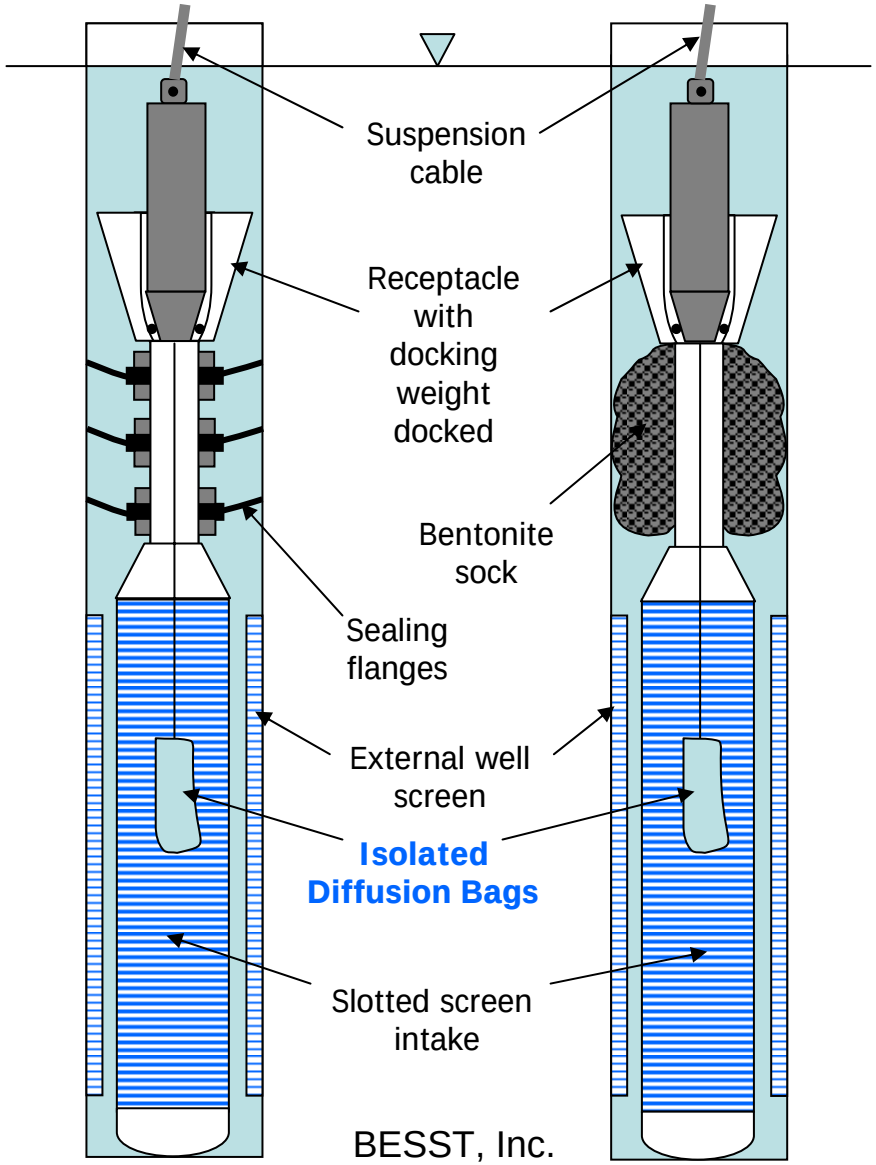
ZIST™ RetroWell systems reduce purge volume. The pump docks with the Receptacle and does not sample water from the riser pipe above the Receptacle—<u>drawdown rate does not need to be monitored</u>. When 3-5 wet casing volumes are required, purge volume is reduced by as much as 60% by ZIST™ displacement systems.

ZIST™ RetroWell Systems

(For Isolating Zero-Purge Samplers)

The ZIST™ RetroWell can be used to isolate Passive Diffusion Bags (PDBs), pressurized bailers, water-sleeves, and sampling vials in existing 2", 4" and all other wells.

Samples are taken from only the well screen target zone.



In the case of PDBs, the screen is isolated from the riser pipe. Diffusion cross-over from riser pipe water is eliminated to prevent potential bias of the PDB sample.

ZIST™ In-Line systems are also fully compatible with PDB sampling technologies.

Key Points: ZIST™ Well Systems

- **Completely Isolate Well Screen During Purging and Sampling.**
- **Eliminate Drawdown of Riser Pipe Water During Monitoring.**
- **Limit Groundwater Removal to The Well Screen Zone Only.**
- **Significantly Reduce Purging and Sampling Time – and Cost – throughout The Life of The Project. No Bailing.**
- **Easily Obtain Water Level Measurements.**
- **Simultaneously Purge Nested and Clustered Well Systems.**
- **Simultaneously Obtain Water Level Data from All Zones within A Nest or Cluster.**
- **Compatible with Other Devices: ZIST™ Pumps Can Be Integrated with Sensors, and Removed at Any Time.**
- **Easy to Maintain: O-Ring around ZIST™ Tubular Docking Weight Can Be Replaced at Any Time.**
- **Easily Introduce Other Tools through ZIST™ Receptacle after ZIST™ Pump and Tubing Are Removed.**
- **Easily Adapted for Rapidly Decreasing Water Levels.**
- **ZIST™ Can Be Easily Integrated into 3/4-Inch, 1-Inch, 2-Inch, 4-Inch and Any Other Well Diameter.**
- **ZIST™ Wells Can Be Developed and Redeveloped Using Traditional Well-Development Techniques.**

BESST Equipment and Services for ZIST™ Installations:

- **ZIST™ Pumps, Receptacles, Displacement and Sealing Devices, and related technologies.**
- **Timer Control Units, Regulators for automated pump operation.**
- **Integrated ZIST™ Sensors and Data Loggers for temperature and pressure monitoring. Sensors include fiber optic sensors and electrical sensors with built-in data storage capability.**
- **Suspension Caps with sealing o-rings and suspension cables.**
- **Pipe and Slotted and Wire Wrapped Screens for all system components; as well as other types of filters such as porous stones.**
- **Tubing, including single or bonded HDPE, LDPE, Teflon, Teflon-lined PE and PE in various dimensions and combinations for optimal pumping rates.**
- **Annular Materials (sand and bentonite) for ZIST™ In-Line Well Installations.**
- **Stainless Steel Fittings for system augmentation and operation.**
- **Installation Supervision and Consultation.**

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