

ELECTRONIC

ECHO-SCALE™ ULTRASONIC LEVEL**MONITOR CHEMICALS IN BULK STORAGE TANKS**

- + Use with our WIZARD 4000™ or SOLO G2™ indicators, or "Stand-Alone"-- straight into SCADA
- + EZ-Cal™ Software for quick set-up and calibration
- + Optional Echo-Tube™ Stillwell Flange Kit guarantees a perfect installation

Echo-Scale™ Ultrasonic Level Sensors are ideal for monitoring sodium hypochlorite, fluoride, caustic and most other chemicals stored in bulk tanks at water and wastewater treatment plants.

The Echo-Scale sends out ultrasonic sound bursts to determine the chemical level in the tank, then, through our WIZARD 4000 or SOLO G2 indicators, the remaining chemical is displayed as a distance, weight or volume. When local indication is not required, the Echo-Scale can operate "stand-alone" by sending its 4-20mA level signal straight into SCADA or a PLC.

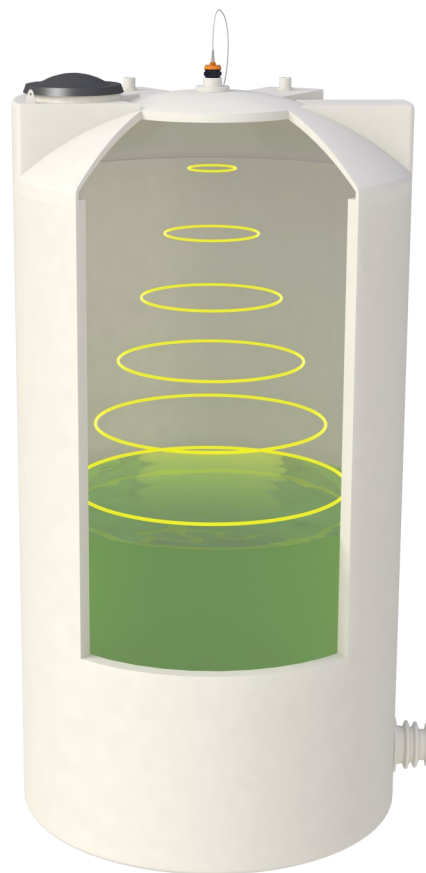
The Polycarbonate/PVDF design of the Echo-Scale makes it extremely durable. With its economical price and simple installation requirements, the Echo-Scale is the perfect level monitoring system for new bulk tanks, and for easy retrofitting of existing tanks.



*EZ-CAL™ SOFTWARE
MAKES SET-UP AND
CALIBRATION A SNAP!
WIZARD 4000 MONITORS
USAGE, FEED RATE AND
REMAINING CHEMICAL
IN UP TO 4 SEPARATE
TANKS.*



*SPECIAL PULSE R™
PROGRAMMING
MAKES THE ECHO-
SCALE IDEAL FOR
CHEMICALS THAT
"OFF-GAS", SUCH
AS SODIUM HYPO-*

**FORCE FLOW**

ECHO-SCALE™ ULTRASONIC LEVEL SENSOR

MODELS AND ORDERING INFORMATION

Rev 10/23

Sensors include 20 ft (6.5m) of cable. Longer cable available upon request. Sensors are formatted for "Reverse Reading": 4mA when tank is empty, 20mA when tank is full.

SPECIFYING GUIDELINES: **1)** Include Level Sensor specification in Chemical Feed Section (not Instrumentation Section) to allow easy coordination with tank and other chemical feed apparatus. **2)** Specify a properly sized **NPT** coupler in the top of the tank, located preferably near the center, or specify the EchoTube™ Stillwell Flange Kit. **3)** For chemicals that "off-gas", provide proper venting apparatus.

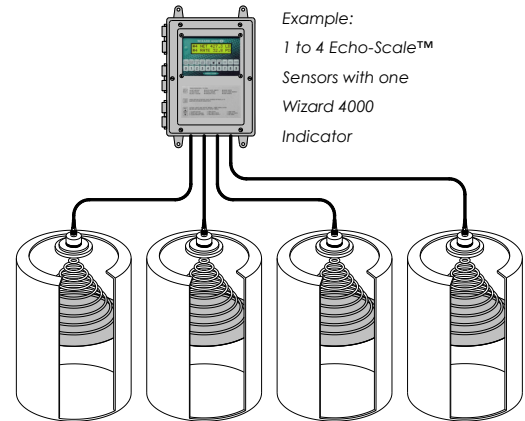
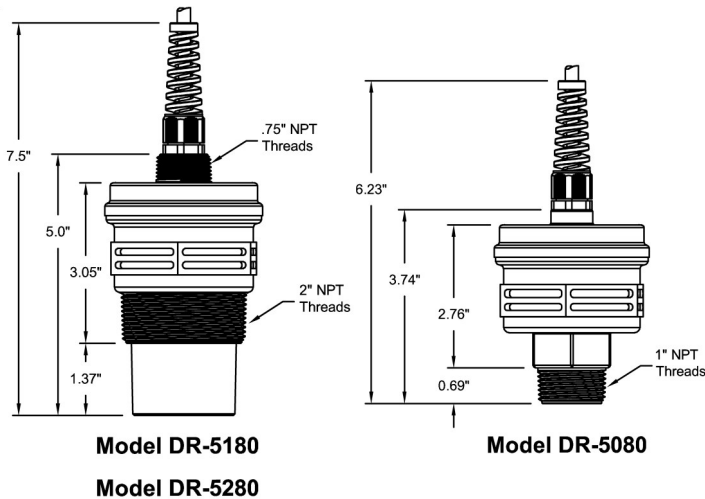
Monitor with the following indicators (sold separately):



WIZARD 4000™

SOLO G2™

MODEL	DR-5080	DR-5180	DR-5280
RANGE	4'-79" (76mm-2006mm)	1'-10' (0.3m-3m)	1'-20' (0.3m-6.5m)
OUTPUT	4-20mA		
HOUSING	UPPER HOUSING: Polycarbonate / PET Blend TRANSDUCER HOUSING: PVDF (Kynar)		
THREADED MOUNT	Transducer: 1" NPT(M), Cable Conduit: N/A	Transducer: 2" NPT(M), Cable Conduit: 3/4" NPT(M)	
ACCURACY	+/- 0.25% of range with no temp gradient		
RESOLUTION	0.1" (2.54mm)		
RATINGS	Environmental: NEMA 4X, IP65 Electrical: CSA - C & US		
SUPPLY VOLTAGE	12-28 VDC (24 VDC Recommended)		
TOTAL CURRENT DRAW	80mA max @ 24 VDC		
BEAM PATTERN	9 Degrees off axis		
CABLE	3 Conductor with shield, 22 AWG, PVC jacket, 20' (6.5m)		
OPERATING TEMPS	-40 to 60 Degrees C		



SPECIFICATIONS

TYPICAL SPECIFICATION FOR ULTRASONIC LEVEL MONITORING SYSTEM

- SENSOR**
 An Ultrasonic Level Sensor shall be provided for each tank. Sensor shall be of the self-contained type with a 4-20 mA output signal proportional to the tank level. Sensor shall have a range of ___ (up to 20) feet and shall have a NEMA 4X housing with ___ (20' standard) of sensor cable. Accuracy shall be better than 0.25% with no temperature gradient. Sensor shall be Echo-Scale™ Model No. ___ as manufactured by Force Flow, 2430 Stanwell Dr., Concord, CA 94520 USA or equal.
- STILLWELL FLANGE KIT**
 Kit shall include mounting flange with to accept 2" Schedule 40 PVC pipe (by others), 2" SLIP X FIPT adapter with hose barb fitting for vent line and four(4) bolt/nut sets. All components shall be made of PVC plastic. Sealing O-ring and gasket shall be included. Stillwell Flange Kit shall be Echo-Tube™ Flange Kit Model No. FLANGE-KIT as manufactured by Force Flow, 2430 Stanwell Dr., Concord, CA 94520 USA or equal.
- BASIC DIGITAL INDICATOR**
 Sensor(s) shall display data on a local indicator of the digital LCD type. Indicator shall be housed in a NEMA 4X, UL listed enclosure. Indicator configuration shall be menu driven, and indicator shall provide a 4-20 mA output signal for remote monitoring. Indicator shall have two adjustable set points for local level alarm indication. Indicator shall be SOLO G2™ as manufactured by Force Flow, 2430 Stanwell Dr., Concord, CA 94520 USA or equal.
- ADVANCED MULTI-CHANNEL DIGITAL INDICATOR**
 Sensor(s) shall display data on a local indicator of the digital LCD type. Indicator shall carry CE marking and shall be housed in a NEMA 4X, UL listed enclosure. Indicator shall independently monitor ___ (up to 4) separate sensors or scales, as well as monitor the totals of ___ (up to 4) tanks. Each channel shall display net remaining, daily usage, total amount used, rate of feed and days until empty. A data log function shall store the daily usage for each of the previous 30 days. Operator shall be able to monitor chemical by weight, volume, level or percent full. Indicator shall be WIZARD 4000™ as manufactured by Force Flow, 2430 Stanwell Dr., Concord, CA 94520 USA or equal.

