



Flow and Level



Index

Flow

FL510	V-notch weir
FL520	Electromagnetic flow meter
FL521	Flow meter
FL522	Flow meter
FL525	Electromagnetic flow meter
FL530	Flow probe
FL540	Insertion electromagnetic flow sensor
FL545	Insertion electromagnetic flow sensor
FL546	Insertion flow sensor

Level

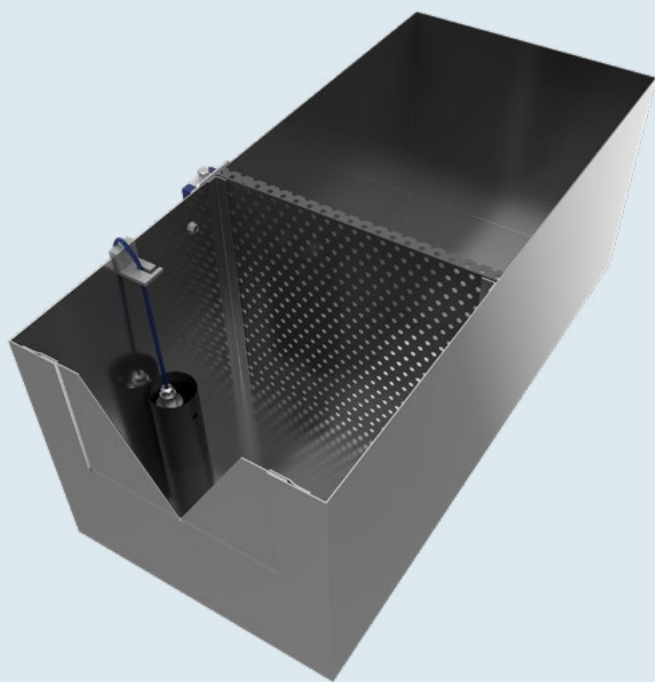
LV610	Electric piezometer
LV611	Electric piezometer
LV615	Piezometer with datalogger
LV616	Piezometer with datalogger
LV617	Piezometer with datalogger
LV620	Water level meter
LV621	Water level alarm sensor
LV625	Portable ultrasound level meter
LV630	Ultrasound level meter
LV680	Piezometric head

Samplers and Pumps

LV690	Submerged pump for purge
-------	--------------------------

FL510

V-notch weir



Description

The V-Notch FL510, produced by SIM STRUMENTI, allow measuring the water flow in open channels. The water is been canalized through a specific calibrated v-notch. The measurement of the level (level variation) is done upstream the v-notch with great precision. The v-notch must be chosen considering that the maximum flow must be at $\frac{3}{4}$ of the v-notch maximal height. All materials at water contact are produced in plastic material and/or stainless steel material in order to ensure longevity an measuring precision.

The level measuring, with an appropriate range, can be either an ultrasound sensor (LV630) or either a piezometric sensor (LV610).

Every sensor is provided with a calibration certificate that attests the results of the test performed and all electromechanical features.

Manual read out with DATAFLOW.

Automatic read out with MINILOG, MYLOG.

Readout units with NATUN.

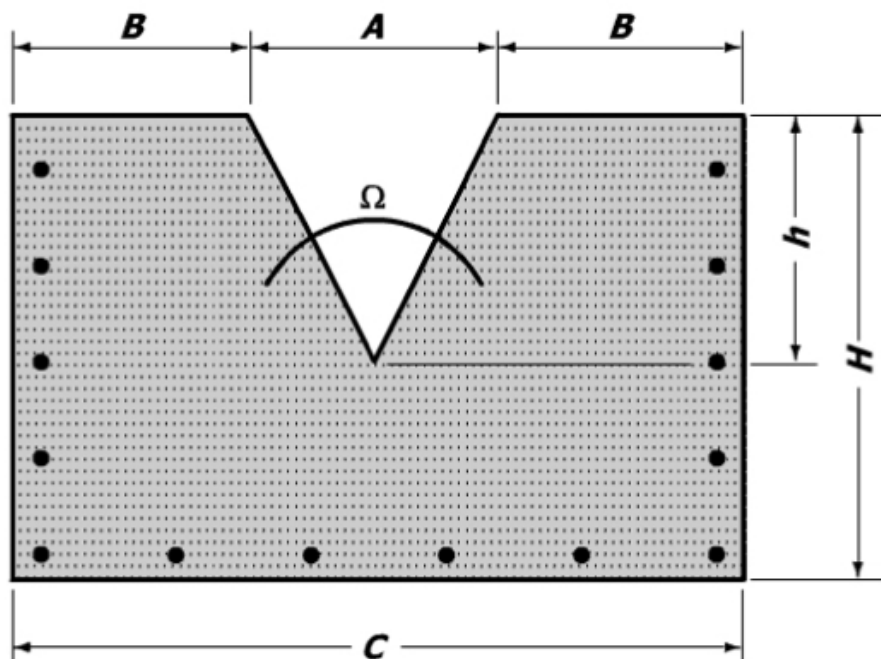
Applications

Flow measurement in canals, rivers etc.



FL510

V-notch weir



Model	Flow (l/s)	A	B	C	H	h	Ω	Sp.	Kg
FL510-10	10	125	63	250	250	150	45	4	1.5
FL510-20	20	202	74	350	250	175	60	4	2.0
FL510-50	50	300	50	400	300	200	*	4	1.8

Sensors and data acquisition units available **
(also available other customized solutions)

FL510-01	Level meter mod. LV610-RL
FL510-02	Ultrasound level meter mod. LV630-01
FL510-03	Piezometer with datalogger mod. LV615-RL
FL510-04	Piezometer with datalogger mod. LV616-RL
FL510-05	Ultrasound level meter mod. LV610-RL with datalogger MINILOG
FL510-06	Ultrasound level meter mod. LV630-01 with datalogger MINILOG
FL510-07	Ultrasound level meter mod. LV630-01 with datalogger MYLOG
FL510-08	Level meter mod. LV610-RL with readout unit DATAVIEW
FL510-09	Level meter mod. LV630-01 with readout unit DATAVIEW

Accessories

Custom calibrated plate	FL510-PR-LL-AA***
Mounting bracket for ultrasound sensor	FL510-ST-US
Mounting bracket for piezoelectric sensor	FL510-ST-PE
Stainless steel calm bowl 1000x450x400 Sp.2mm	FL510-VS
Division plates	FL510-PFV

* Rectangular

** For more information on the technical features of the level sensors or the readout units, see the related technical sheets

*** Indicate with LL the width and with AA the height

FL520

Electromagnetic flow meter



Description

The magnetic flow meter FL520, produced by SIM, allows to measure the flow in tubes. The measurement principle is based on the Faraday's law of electromagnetic induction. The measurement is done with great precision, since inside the tube there is no moving parts.

The magnetic flow meter FL520 is equipped with a display allowing to view several measuring options, such as: minimum flow, maximum flow, totalized flow and the possibility to show different measuring units.

Every sensor is provided with a calibration certificate that attests the results of the test performed and all electromechanical features.

Manual read out with DATAVIEW.

Automatic read out with MINILOG, MYLOG.

Readout units with NATUN.

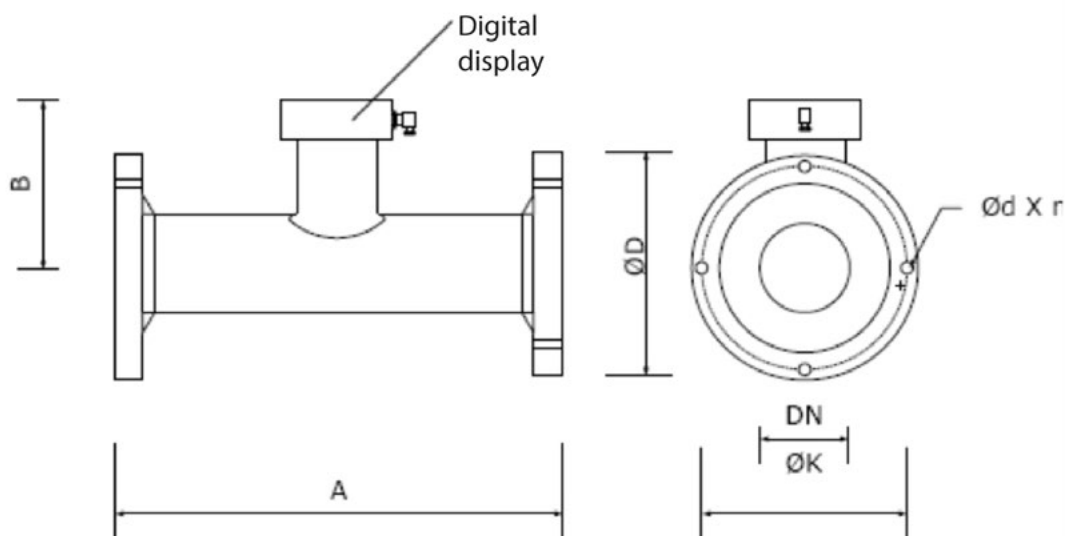
Applications

Flow measurement in tubes.



FL520

Electromagnetic flow meter



Model	DN	A	ØD	ØK	Ød X n	B	KG
FL520-100	4"	260	228.6	190.5	19 x 8	178	15
FL520-150	6"	312	279.4	241.3	22.2 x 8	206	21
FL520-200	8"	362	342.9	298.5	22.2 x 8	231	31
FL520-250	10"	462	406.4	361.9	25.4 x 12	257	57
FL520-300	12"	500	482.6	431.8	25.4 x 12	282	66

Technical features

Model	FL520-XXX-01*	FL520-XXX-02*
Supply	2 batt. al litio 3,6V "D"	8-32 Vcc
Output	Display	Pulses and display
Linearity	1% among 10% and 100% of the scale 2% among 0 and 10% of the scale	
Operating temperature	-12° ÷ +54 °C	
Min conductivity	20 µS/cm	
Max pressure	10.3bar	
Protection	IP65, IP68 upon request	
Display	5 digit instantaneous 8 digit totalized	
Measure unit**	Lit/min, Lit/sec, m3h, Mlit/day	
Material	External body	Resin coated steel
	Internal body	Hard rubber
	Electrodes	AISI 316 Stainless steel
	Electronics	Coated aluminum hard container

Accessories

Batteries	FL520 - AX - BATT
Flange	FL520 - AX - XXX*

Flow table in Lit/sec

Model	-100	-150	-200	-250	-300
Minimum	0.75	2	3.8	6	8.2
Maximum	63	151.4	277.6	441.6	630.9

*XXX Specify the model (-100.... -300)

** Specify to order; on-site modification is not possible

FL521

Flow meter



Description

The FL521 meter is a versatile flow meter, available in two types of material and in several sizes. It provides an accurate flow rate measurement, using a precision and quality mechanics with long-lasting and high tolerance bearings. In case of necessity, the sensor can be easily replaced.

The polypropylene model FL521-01 is low cost and suitable for the measurement of water or low corrosion fluids. The cover lens (used to visualize the liquid) is available in acrylic for low corrosion or polypropylene, when a higher corrosion protection is required.

The rotor is made of kynar, the nickel and tungsten carbide shaft and the O-ring in EPDM.

The model FL521-02 is Teflon made, which guarantees greater resistance to chemical agents. The rotor is made of kynar, the shaft of ceramic material and the O-ring in Teflon coated viton. An optional silicon carbide shaft is available. Upon request, the sensor can be connected to a pulse / current converter which transforms the pulses into a 4 ÷ 20mA output, or a pulse / current converter also equipped with a digital display (totalizer + instantaneous flow).

The converter (with or without display) is equipped with wall mounting brackets. Every sensor is provided with a calibration certificate that attests the results of the test performed and all electromechanical features.

Manual read out with DATAVIEW.

Automatic read out with MINILOG, MYLOG.

Readout units with NATUN.

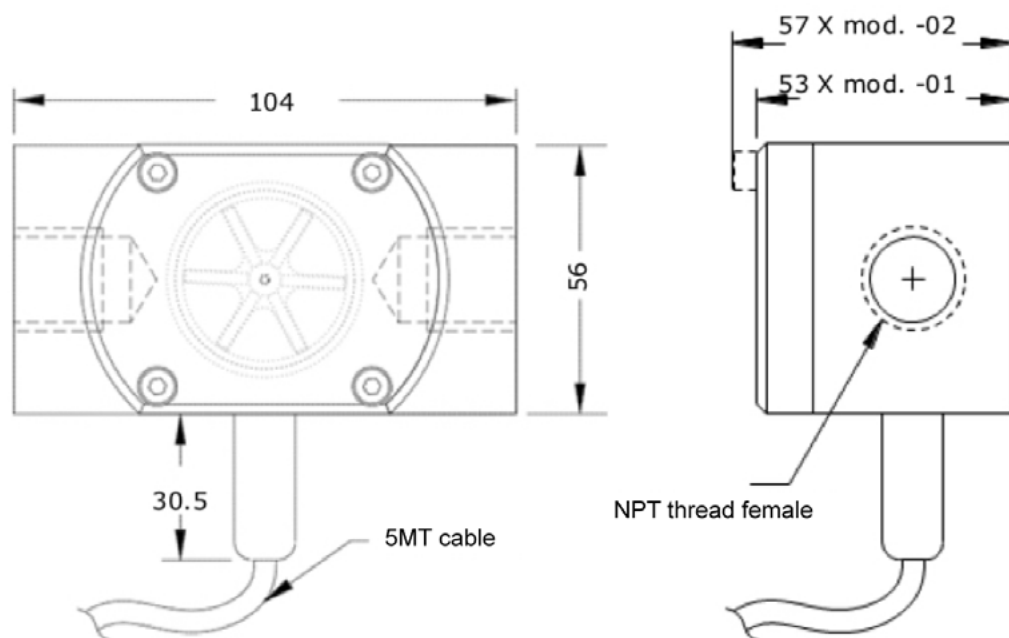
Applications

Measurement of small flows, chemical liquids, fertilizers, etc.



FL521

Flow meter



Technical features

Model		FL521-01-XX*	FL521-02-XX*
Range	-01	0.27 ÷ 18.9 Lit/min	3/8" NTP thread
	-02	0.38 ÷ 37.9 Lit/min	1/2" NTP thread
	-03	0.75 ÷ 75 Lit/min	3/4" NTP thread
	-04	1.90 ÷ 150 Lit/min	1" NTP thread
Linearity		±1% FS	
Supply		5-24Vdc / 2mA minimum	
Output		Pulse 6-24Vdc	
Max. Pressure		10 bar	
Max. Temperature		70°C	82°C
Max. Temperature		Standard 5mt; extensible up to 500mt	
Materials	Body	Polypropylene	Teflon
	Rotor	PVDF (kynar)	
	Shaft	Nickel and tungsten carbide	Ceramic
	O-ring	EPDM	Teflon coated viton
	Cover	Acrylic	Teflon

Accessories

Ceramic shaft	FL521-AC
Silicon carbide shaft	FL521-AS
Sensor	FL521-SE
Wall mounted display with 4-20 mA output	FL505-DS-WL
Wall mounted 4-20 mA converter	FL505-CO-WL
Lighter supply cable	IN910-AX-CPS1

* Indicate the range (-01... .. -04)

FL522

Flow meter



Description

The FL522 flow meter can be used in a wide range of flow measurement typologies. It is made of compact stainless steel, providing an accurate flow measurement using a precision and quality mechanics with long-lasting and high tolerance bearings.

The standard rotor is made of PVDF, while the shaft is in a particular alloy of nickel and tungsten carbide. The optional ceramic shaft increases resistance to particular concentrated chemicals. The standard O-Ring is in Teflon coated viton, for a better resistance to chemical agents; an EPDM and kalrez O-ring is available upon request.

In case of necessity, the sensor can be easily replaced.

Upon request, the meter can be connected to a pulse / current converter that transforms the pulses into a 4 ÷ 20mA output, or to a pulse / current converter also equipped with a digital display (totalizer + instantaneous flow).

The converter (with or without display) is equipped with wall mounting brackets. Every sensor is provided with a calibration certificate that attests the results of the test performed and all electromechanical features.

Manual read out with DATAVIEW.

Automatic read out with MINILOG, MYLOG.

Readout units with NATUN.

Applications

Measurement of small flows

Chemical liquids

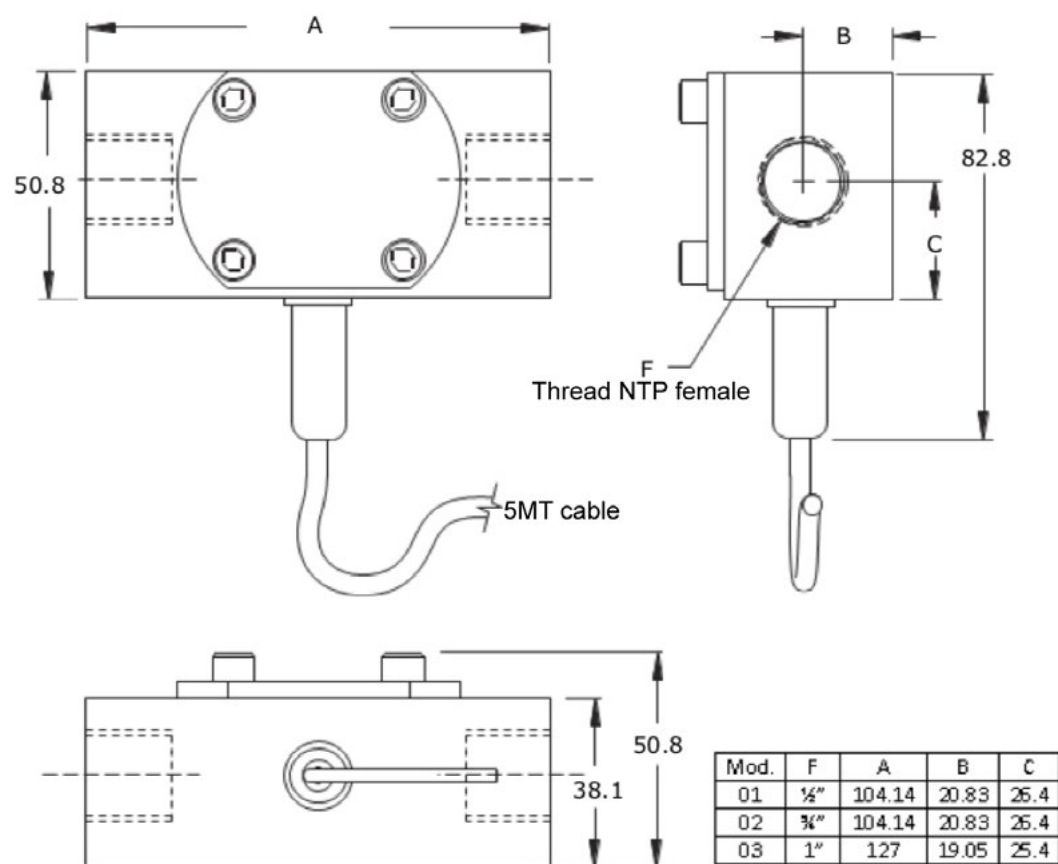
Fertilizers

Sprayed chemical products



FL522

Flow meter



Technical features

Model	FL522-01-XX*	
Range	-01	0.38 ÷ 37.9 Lt/min 1/2" NTP thread
	-02	0.75 ÷ 75 Lt/min 3/4" NTP thread
	-03	1.90 ÷ 95 Lt/min 1" NTP thread
Linearity	±1% FS	
Supply	5-24Vdc 2mA minimum	
Output	Pulse 6-24Vdc	
Max. Pressure	35 bar	
Max. Temperature	93°C	
Sensor cable	Standard 5mt; extensible up to 500mt	
Materials	Body	Stainless Steel AISI 316
	Rotor	PVDF (kynar)
	Shaft	Nickel and tungsten carbide
	O-ring	Teflon coated viton
	Cover	Stainless Steel AISI 316

Accessories

Ceramic shaft	FL522-AX-01
Silicon carbide shaft	FL522-AX-02
Sensor	FL522-AX-03

*XX Indicate the range (-01, -02, -03)

FL525

Electromagnetic flow meter



Description

The FL525 electromagnetic flowmeter is entirely made of polypropylene guaranteeing a corrosion resistance for a wide range of chemical agents. Its light weight and the simplicity of connection to the pipes with fittings, makes it easy to assemble and disassemble. There are different types of fittings to facilitate adaptation to a wide variety of configurations.

The FL525 flowmeter has no moving parts and allows free flow of liquids, minimizing noises. It is resistant to the wear from sand and debris that may be carried in the water flow, thus saving maintenance costs and downtime.

It can be used where the pipe configuration has tight spaces between pump, valves and flow meter. It is also equipped with a display that shows the instantaneous flow and total flow; it is available in two power supply versions: a 10 to 30Vdc one and a battery operated one.

Upon request, the FL525-01 meter can be connected to a pulse / current converter that transforms the pulses into a 4 ÷ 20mA output, or to a pulse / current converter also equipped with a digital display (totalizer + instantaneous flow).

The converter (with or without display) is equipped with wall mounting brackets. Every sensor is provided with a calibration certificate that attests the results of the test performed and all electromechanical features.

Manual read out with DATAVIEW.

Automatic read out with MINILOG, MYLOG.

Readout units with NATUN.

Applications

Flow measurement in wells with industrial wastewater.

Flow measurement in remediation operations.

Cooling water etc.



FL525

Electromagnetic flow meter



Technical features

Model	FL525-01-XX*	FL525-02-XX*
Supply	10-30 Vcc	6 alkaline batteries or 2 lithium C batteries
Consumption	MAx 60mA; average 15mA	1-2 years or 2-4 years
Output	Pulse	----
Tube	1", 2" or 3"	
Linearity	1% from 10% to 100%; 3% from 0% to 10%	
Speed	1" da 0.14 a 6.94 l/s; 2" da 0.37 a 18.9l/s; 3" da 0.88 a 42.3l/s	
Unit of measurement**	Instantaneous l/sec, l/min, M3/min Totalizer liter, mgl, M3	
Min. Conductivity	20 µS/cm	
Pressure	Up to 10 bar	
Operating temperature	-12 ÷ +54 °C	
Protection	IP65	
Material	Polypropylene	
Material electrodes	Hastelloy C	
Totalizer flow	8 digit	
Instantaneous flow	6 digit	
Dimension	1" 110x137x140mm; 2" 118x153x140mm; 3" 118x185x185	

Accessories

Pipe fittings for 1" tube	FL525-RA-01
Pipe fittings for 2" tube	FL525-RA-02
Pipe fittings for 3" tube	FL525-RA-03
Lithium C batteries package	FL525-BT-OC
Alkaline AA batteries package	FL525-BT-AA
External power supply	FL525-AL

*XX Indicate the tube diameter (-01 for 1" , -02 for 2" , -03 for 3")
 ** Specify at the time of the order, on-site changes are not possible

ED-06/22

FL530

Flow probe



Description

The flow probe FL530 is an instrument suitable for measuring the water speed in channels, rivers and partially filled tubes. The system consists of telescopic bar with a propeller and digital display. The working principle consist of a free-moving prop, which inserted into the water, creates a number of impulses directly proportional to the water speed. Those impulses are shown on a display under actual and average speed.

The flow probe FL530 is produced in two models, which differs from the extension of the telescopic bar.

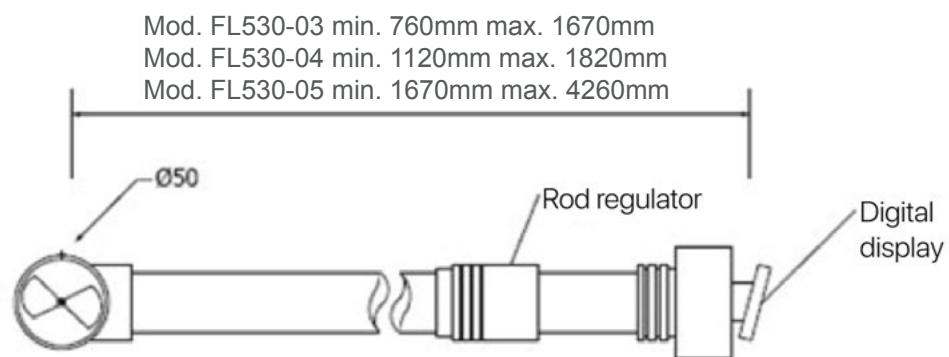
Applications

Water flow measurement in canals, rivers etc.



FL530

Flow probe



Technical features

Model	FL530-03	FL530-04	FL530-05
Range	0.1 - 6.0 m/s		
Accuracy	0.3 m/s		
Display	LCD		
Supply	Internal battery		
Sensor	Propeller with magnetic impulse		
Rod (mm)	760-1670	1120-1820	1670-4260
No. elements in the rod	3	2	3
Operating temperature	-20 ÷ +70 °C		
Material	PVC, anodised aluminum, Stainless steel		
Adjustable propeller body	-	-OR*	-OR*

Accessories

Digital display	FL530-VS
Display holder	FL530-PV
Model -03 telescopic rod	FL530-AS-03
Model -04 telescopic rod	FL530-AS-04
Model -05 telescopic rod	FL530-AS-05
Propeller kit	FL530-KE
Propeller holder	FL530-PE
"Fin"	FL530-PN
Model -03 case	FL530-BS-03
Model -04 case	FL530-BS-04
Model -05 case	FL530-BS-05

* To request the adjustable propeller, add the -OR abbreviation to the instrument code

FL540

Insertion electromagnetic flow sensor



Description

The Electromagnetic Flow Sensors of the series FL540 are highly reliable adjustable depth insertion flow sensors. The meters have no moving parts, no rotors to stop turning in dirty water, and no bearings to wear out.

The sensor produces a rapidly reversing magnetic field in the lower housing. As fluid moves through this field, a voltage is generated. This voltage is measured and translated into a frequency signal that is proportional to flow rate. This square wave signal can then be sent directly to a PLC or other control system, or it can be converted using optional output displays and converters with a 4-20mA signal. There are two types of displays: mounted directly on the sensor or on a wall.

Every sensor is provided with a calibration certificate that attests the results of the test performed and all electromechanical features.

Manual read out with DATAVIEW.

Automatic read out with MINILOG, MYLOG.

Readout units with NATUN.

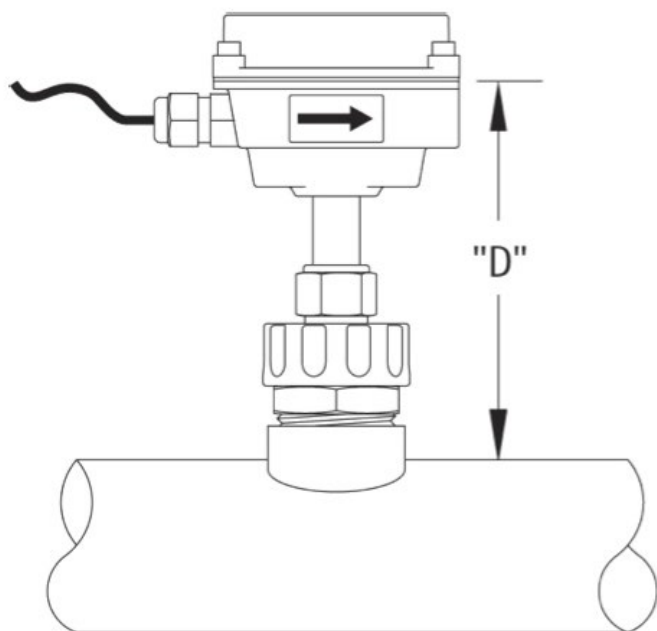
Applications

Water flow measurement in pipes.



FL540

Insertion electromagnetic flow sensor



Technical features

Model	FL540-01IN FL540-01OT FL540-02IN FL540-02OT				
Range	0.06-6.09 m/sec				
Pipe size	3"-10"		10"-48"		
Output	Opto-isolated square wave frequency 500Hz 20ft/sec				
Supply	12-24Vcc				
Consumption with display	250mA				
Accuracy	1%				
Max pressure	13.8 bar				
Room temperature	-17 ÷ +82°C				
Liquid temperature	0 ÷ +100°C				
Min conductivity	20µS				
Material	Sensor	AISI 316	Brass	AISI 316	Brass
	Case			Aluminum	
	Electrode			Hastelloy	
Dimensions	10x10x30.5cm			10x10x43.2cm	
Weight with display	1.36Kg			1.54Kg	

Accessories

Wall mounted display with 4-20 mA output	FL505-DS-WL
Instrument mounted display with 4-20mA output	FL505-DS-SE
Wall mounted 4-20 mA converter	FL505-CO-WL
Instrument mounted 4-20 mA converter	FL505-CO-SE

Flow in m3/h

Diameter	3"	4"	6"	8"	10"	12"	14"
Minimum	1.36	2.50	5.68	9.99	15.67	22.49	30.43
Maximum	99.93	177.8	400.1	711.6	1111.8	1601.2	2,179.5

Diameter	16"	18"	20"	24"	30"	36"	48"
Maximum	39.75	50.42	62.23	89.71	140.14	201.69	358.86
Minimum	2846.6	3602.9	4448	6404.9	10008	14411	25620

ED-06/22

FL545

Insertion electromagnetic flow meter



Description

The FL525 electromagnetic flow sensors are highly reliable and easy to assemble. The great advantage of those sensors, is that they have no bearings or moving parts that can wear out or interrupt the measurement even with dirty water.

The sensor produces an electromagnetic field in the lower part which generates an electrical voltage when the liquid passes. This is converted into a frequency signal proportional to the flow.

Upon request, the meter can be connected to a pulse / current converter that transforms the pulses into a 4-20mA output, or to a pulse / current converter also equipped with a digital display (totalizer + instantaneous flow).

The converter (with or without display) can be mounted via brackets to the wall or directly on the meter. This choice must be specified at the time of the order.

Every sensor is provided with a calibration certificate that attests the results of the test performed and all electromechanical features.

Manual read out with DATAVIEW.

Automatic read out with MINILOG, MYLOG.

Readout units with NATUN.

Applications

Measurement of flows in tubes.



FL545

Insertion electromagnetic flow meter



Technical features				
Model		FL545-01-XX*	FL545-02-XX*	FL545-03-XX*
Range		0.08–6.09 m/sec		
Tube size		1"–12"		
Output		Freq. square wave opto isolated 500Hz 20ft / sec		
Supply		12–24Vcc		
Consumption		40–250mA		
Accuracy		±1%		
Max pressure		13.8 bar		10 bar
Environment temperature		–17 ÷ +72°C		
Liquid temperature		0 ÷ +93°C		0 ÷ +55°C
Min conductivity		20µS		
Material	Sensor	Stainless Steel AISI 316	Brass	PVC
	Casing		Aluminum	
	Electrode		Hastelloy	
Dimensions**		100 x 100 x H mm		
Weight		0.9Kg		

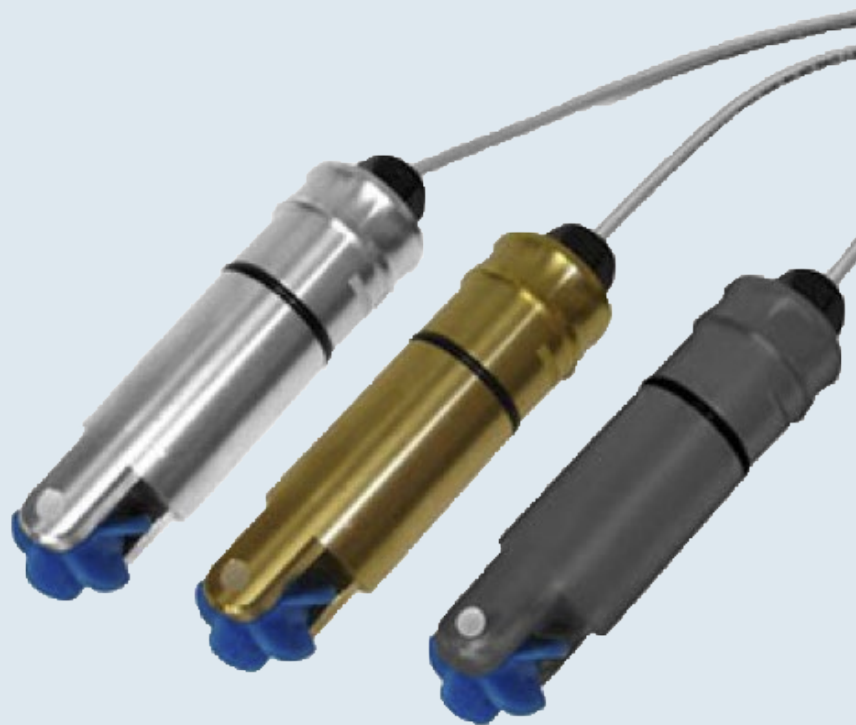
Accessories	
Wall mounted display with 4-20mA output	FL505-DS-WL
Sensor mounted display with 4-20mA output	FL505-DS-SE
Wall mounted 4-20mA converter	FL505-CO-WL
Sensor mounted 4-20mA converter	FL505-CO-SE

Flow in m3/h									
Diameter	1"	1 1/2"	2"	3"	4"	6"	8"	10"	12"
Minimum	0.16	0.34	0.61	1.40	2.50	5.68	9.76	15.44	22.48
Maximum	11.13	24.98	44.52	99.93	177.8	400	711	1113	1601

*XX -D1 for diameters 1"- 3"; -D2 for diameters 4" – 10"; -D3 for diameter 12"
 **H = 1783mm for -D1 ; 2087mm for -D2 ; 2392mm for -D3

FL546

Insertion flow meter



Description

The FL546 series are highly reliable and easy to assemble propeller flow sensors. They provide an accurate measurement of the flow, thanks to a mechanic precision and quality, with long lasting and high tolerance bearings. Rotation of the rotor is detected by a Hall effect sensor. The output is a square wave pulse that can be sent over long distances (up to 650mt).

Upon request, the meter can be connected to a pulse / current converter that transforms the pulses into a 4-20mA output, or to a pulse / current converter also equipped with a digital display (totalizer + instantaneous flow).

The converter (with or without display) can be mounted via brackets to the wall or directly on the meter. This choice must be specified at the time of the order. Every sensor is provided with a calibration certificate that attests the results of the test performed and all electromechanical features.

Manual read out with DATAVIEW.

Automatic read out with MINILOG, MYLOG.

Readout units with NATUN.

Applications

Measurement of flows in tubes.



FL546

Insertion flow meter



Technical features

Model	FL546-01-XX*	FL546-02-XX*	FL546-03-XX*
Range	0.15-9.14 m/sec		
Tube size	1.5" - 8"		
Output	Impulsi 20mA max 30Vdc Max		
Supply	6-30Vcc		
Consumption	8mA		
Accuracy	±2%		
Max pressure	14 bar**		12 bar
Environment temperature	-17 ÷ +72°C		
Liquid temperature	0 ÷ +93°C		0 ÷ +55°C
Min conductivity	20µS		
Material	Sensor	Stainless Steel AISI 316	Brass
	Casing		Aluminum
	Rotor		PVDF
Dimensions**	100 x 100 x H*** mm		
Weight	0.9Kg		

Accessories

Wall mounted display with 4-20mA output	FL505-DS-WL
Sensor mounted display with 4-20mA output	FL505-DS-SE
Wall mounted 4-20mA converter	FL505-CO-WL
Sensor mounted 4-20mA converter	FL505-CO-SE
Rotor kit	FL546-KR
Sensor	FL546-SE

Portata in m3/h

Diameter	1 1/2"	2"	3"	4"	6"	8"
Minimum	0.64	1.14	2.61	4.50	10.22	17.72
Maximum	43.2	71.3	157	270	613	1063

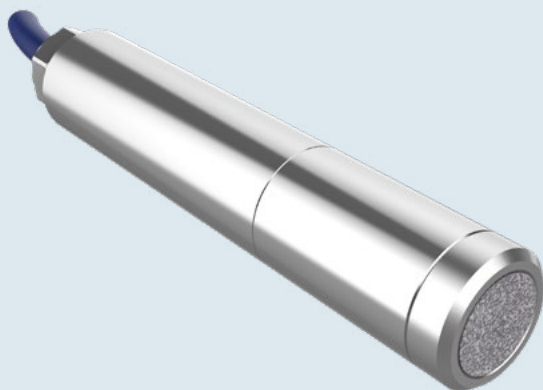
*XX -D1 for diameters 1"-3", -D2 for diameters 4"-10"

** upon request 28 bar only for stainless steel AISI 316 sensor

***H (including transmitter) = 190.5mm for -D1, 215.9mm for -D2

LV610

Electric piezometer



Description

The electric piezometer model LV610 measure pressures, interstitial overpressures and water levels in wells, dams, channels and tanks. The LV610 series is produces in two models:

- LV610-AS, absolute pressure piezometer, is able to measure interstitial ground pressures; equipped with copper shielded cable 4x0.22, outer sheath marine grade.
- LV610-RL, relative pressure piezometer, is able to measure hydrostatic pressures, equipped with vented cable 4x0.22 copper shielded, outer sheath marine grade.

The electric piezometer, inserted in a well, will give a directly proportional signal to the water level. The electric cable, fixed to the piezometer body, can be used for lowering the sensor as well as for recovering it. Inside the vented cable a tube connects the transducer with the atmosphere, allowing automatic barometric compensation.

The sensor consist of a piezoelectric element applied on a flexible metallic membrane, which can translate the pressure to a directly proportional electric signal.

The electric piezometer connection cable is provided with the required length. Every sensor is provided with a calibration certificate that attests the results of the test performed and all electromechanical features.

Manual read out with DATAVIEW.

Automatic read out with MINILOG, MYLOG.

Readout units with NATUN.

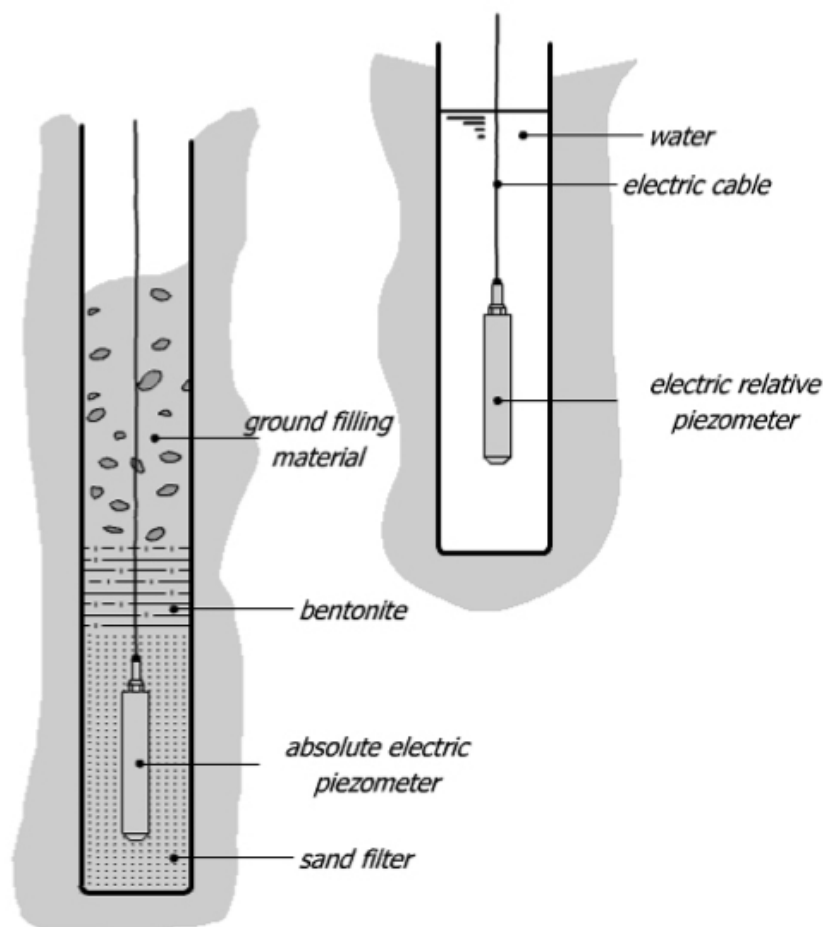
Applications

Water level measurement, interstitial pressure measurement.



LV610

Electric piezometer



Technical features

Model	LV 610-AS-FS*	LV 610-RL-FS*
Sensor	Piezoelectric	
Range available	from 0.05 to 1.0 bar every 0.05bar from 1 to 10 bar every 0.5 bar	
Overpressure	150 % FS	
Supply	8-28Vcc	
Output	4-20mA	
Linearity	0.25% FS	
Max. thermal error	< 0.04% / °C	
Long term precision	<0.2% FS (1 year)	
Insulation	>100MΩ	
Operating temperature	-25 ÷ +100 °C	
Temperature compensation	-10 ÷ +80 °C	
Protection	IP68	
Dimensions	Ø25x145 mm**	
Weight	0.325 Kg	

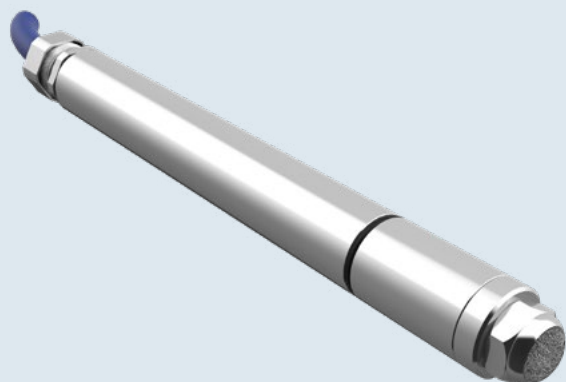
Accessories

Cap with filter (porous stone)	LV611-AX-FT01
Ballast	LV610-AX-WT01
Cable holder	LV610-AX-CBL1
90° cable holder	LV610-AX-CBL2
Junction box with filter	LV611-AX-SCFI

*FS Specify range on the order
 ** On request available Ø 22

LV611

Electric piezometer



Description

The electric piezometer model LV611 measure pressures, interstitial overpressures and water levels in wells, dams, channels and tanks. The LV611 series is produces in two models:

- LV611-AS, absolute pressure piezometer, is able to measure interstitial ground pressures; equipped with copper shielded cable 4x0.22, outer sheath marine grade.
- LV611-RL, relative pressure piezometer, is able to measure hydrostatic pressures, equipped with vented cable 4x0.22 copper shielded, outer sheath marine grade.

The electric piezometer, inserted in a well, will give a directly proportional signal to the water level. The electric cable, fixed to the piezometer body, can be used for lowering the sensor as well as for recovering it. Inside the vented cable a tube connects the transducer with the atmosphere, allowing automatic barometric compensation.

The sensor consist of a piezoelectric element applied on a flexible metallic membrane, which can translate the pressure to a directly proportional electric signal.

The electric piezometer connection cable is provided with the required length. Every sensor is provided with a calibration certificate that attests the results of the test performed and all electromechanical features.

Manual read out with DATAVIEW.

Automatic read out with MINILOG, MYLOG.

Readout units with NATUN.

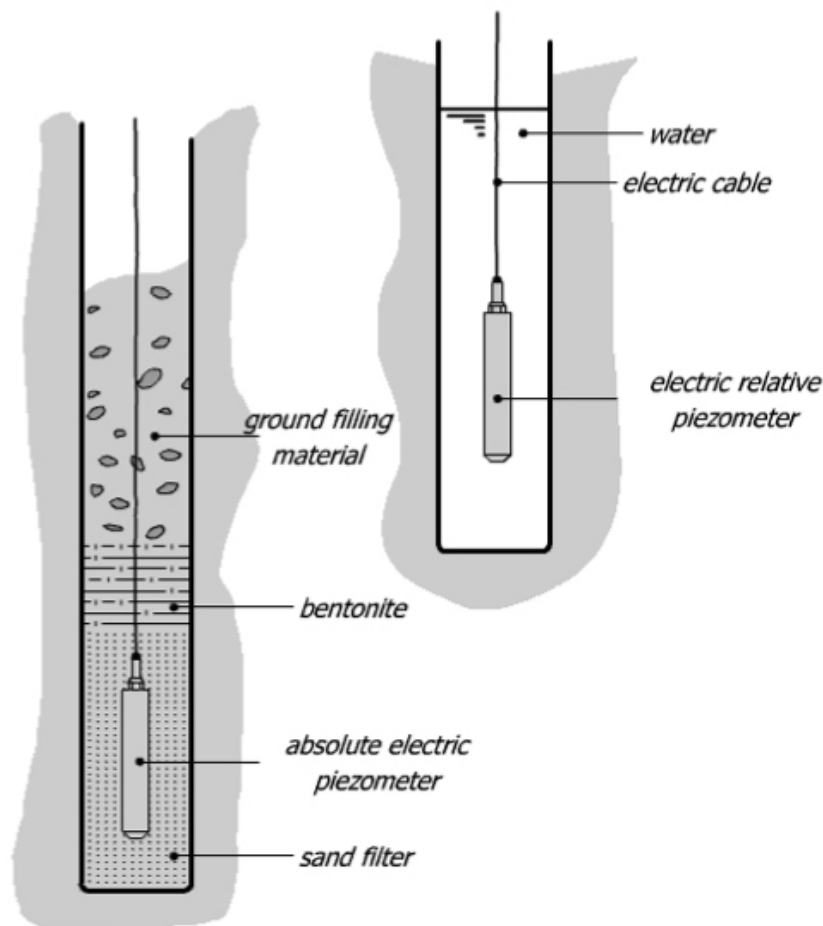
Applications

Water level measurement, interstitial pressure measurement.



LV611

Electric piezometer



Technical features

Model	LV611-01-MM-FS*	LV611-02-MM-FS*
Sensor	Piezoelectric	
Range available	from 1 to 10 bar every 0.5 bar	
Overpressure	150 % FS	
Supply	8-28Vcc	
Output	4-20mA	0-60mV
Linearity	0.2% FS	
Repeatability	0.05% FS	
Zero thermal error	0.75% FS a 35°C	
Span thermal error	0.75% FS a 35°C	
Long term precision	<0.1% F.S. (1 anno)	
Insulation	>100MΩ	
Operating Temperature.	-40÷ +125 °C	
Compensated temp. range	-10÷ +80 °C	
Protection	IP68	
Dimensions	Ø16x160 mm	Ø13.5x100 mm
Weight	100g	80g

Accessories

Cap with filter	LV611-AX-FT01
Cable holder	LV610-AX-CBL1
90° Cable holder	LV610-AX-CBL2
Junction box with filter	LV611-AX-SCFI

*FS Indicate the range

*MM Indicate the model -AS or -RL (with or without atmospheric compensation)

LV615

Piezometer with datalogger



Description

The electric piezometers of LV615 series measure pressures, interstitial overpressures and water levels in wells, dams, canals and reservoirs. LV615 series is produced in 3 models:

- LV615-AS1, absolute piezometer able to detect interstitial pressures in the ground, equipped with 4x0.22 shielded electric cable with marine grade anti-scratch outer sheath.
- LV615-AS2, absolute piezometer able to detect interstitial pressures in the ground without cable, equipped with a hook for fixing a suspension cord.
- LV615-RL, relative piezometer, able to detect a hydrostatic pressure, equipped with 4x0.22 shielded electric cable with atmospheric compensation tube and marine grade anti-scratch outer sheath.

The piezometer, inserted in a well, carries out a pressure measurement directly proportional to the height of the liquid contained in it. The electrical connection cable is fixed to the piezometer casing, allowing it to enter and recover without problems. Inside the connection cable a small pipe connects the reference chamber of the transducer with the atmosphere, in order to compensate for variations in atmospheric pressure: a relative pressure measurement results. In -AS2 model, the data acquisition unit and the battery are inside the piezometer, while, in the -AS1 and -RL models, the data acquisition unit is located at the head of the hole and the electrical connection cable of the piezometers is supplied with the desired length.

MYLOG data acquisition system is housed inside a cylindrical body in Stainless Steel or inside a PVC housing.

Acquisition intervals are programmable from 1min to 24hrs. WARM UP function can be programmed from 1 to 60 seconds and allows to supply current to the instrument before reading, in order to stabilize it. When connected, MYLOG unit provides all the parameterization data stored in it, as well as the status of the battery. The data is saved in a FLASH memory that can store 128.000 data, as well as date and time. The datalogger comes with two rods, so you can fix it by mouth.

It is possible to connect MYLOG unit to a GSM modem.

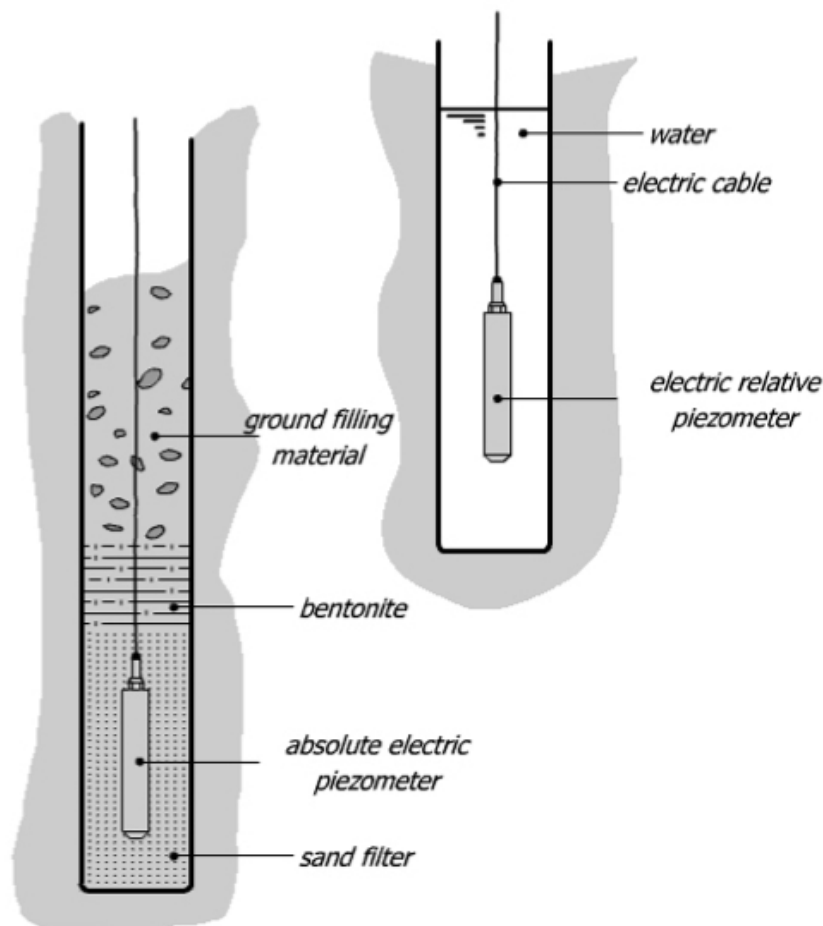
Applications

Level measurement of the stratum, measurement of interstitial pressure.



LV615

Piezometer with datalogger



Technical features

Model	LV615-AS1-FS* LV615-AS2-FS* LV 615-RL-FS*		
Sensor	Piezoelectric		
Range available	from 0.05 to 1.0 bar every 0.05 bar from 1 to 10 bar for every 0.5 bar		
Overpressure	150 % FS		
Linearity	0.25% FS		
Total thermal error	< 0.04% / °C		
Long term stability	<0.2% FS (1 year)		
Isolation	>100MΩ		
Protection	IP68	IP68	IP61
Temperature sensor	Add -TM to instrument acronym		
Measuring range	-10 ÷ 105°C		
Precision	0.1°C		
Datalogger	MYLOG		
Channels	2		
Converter	16bit		
Input	CH1 Piezometer 4-20mA CH2 Temperature 0-2V		
Real time	✓		
Battery control	✓		
Warm Up	✓		
Com. Speed (BPS)	9600, 57600baud		
Acquisition rate	Programmable from 1min to 24hrs.		
Memory per channel	64.000 data plus date and time		
Housing material	Stainless Steel / PVC		
General			
Power	Power supply 3x3.6V 1200mAh		
Consumption	0.01mA in standby 20mA during connection; 30mA during acquisition		
Average duration	In standby 7 years With an acquisition every hour 2.5 years		
Operating temperature	-20 ÷ +70 °C		
Weight	Mod. -AS1 -RL	Sensor 0.325 Kg / Datalogger 0.480Kg	
	Mod. -AS2	0.610Kg	
Dimensions	Mod. -AS1 -RL	Sensor Ø25x145mm / Datalogger Ø25x260mm	
	Mod. -AS2	Ø25x300 mm	

Accessories

Cap with filter (porous stone)	LV610-AX-FT01
Ballast	LV610-WT-KG**
Power supply 3x3.6Vx1200mA	LV615-AX-3612
Communication Kit (USB cable, driver and software VEDO)	ML-LY-COM

*FS Indicate sensor range
**KG Indicate the weight in KG (standard 4 Kg)

LV616

Piezometer with datalogger



Description

The LV616 electric piezometers measure pressures, interstitial overpressures and water levels in wells, dams, canals and tanks. The LV 616 series is produced in 3 models:

- LV616-AS1, absolute piezometer capable of detecting interstitial pressures in the ground, equipped with shielded electric cable 4x0.22 with anti-scratch marine grade outer sheath.
- LV616-AS2, absolute piezometer able to detect interstitial pressures in the ground without cable, equipped with a hook for fixing to a suspension cable.
- LV616-RL, relative piezometer, able to detect a hydrostatic pressure, equipped with 4x0.22 shielded electric cable with atmospheric compensation tube and anti-scratch marine grade outer sheath.

The piezometer, inserted in a well, measures the pressure as a direct proportional to the height of the liquid contained in it. The electrical connection cable is fixed to the piezometer casing, allowing it to be recovered without problems. Inside the connection cable a small pipe connects the reference chamber of the transducer with the outside atmosphere, in order to compensate for variations of atmospheric pressure: this is resulting in a relative pressure measurement.

In the -AS2 model, the data acquisition unit and the battery are inside the piezometer casing, while, in the -AS1 and -RL models, the data acquisition unit is located at the head of the hole and the electrical connection cable is supplied based on any desired length.

MYLOG data acquisition system is housed inside a cylindrical body in Stainless Steel or inside a PVC housing.

Acquisition intervals are programmable from 1min to 24h. The WARM UP function can be programmed from 1 to 60 seconds and allows to power supply the sensor prior to recording, in order to stabilize the signal output. MYLOG unit provides all stored setup data as well as the status of the battery. The data is saved in a FLASH memory that can store up to 128,000 readings, in addition to date and time. The datalogger comes with two rods, allowing it to be fixed at the head of the tube.

It is possible to connect the MYLOG unit to a GSM modem.

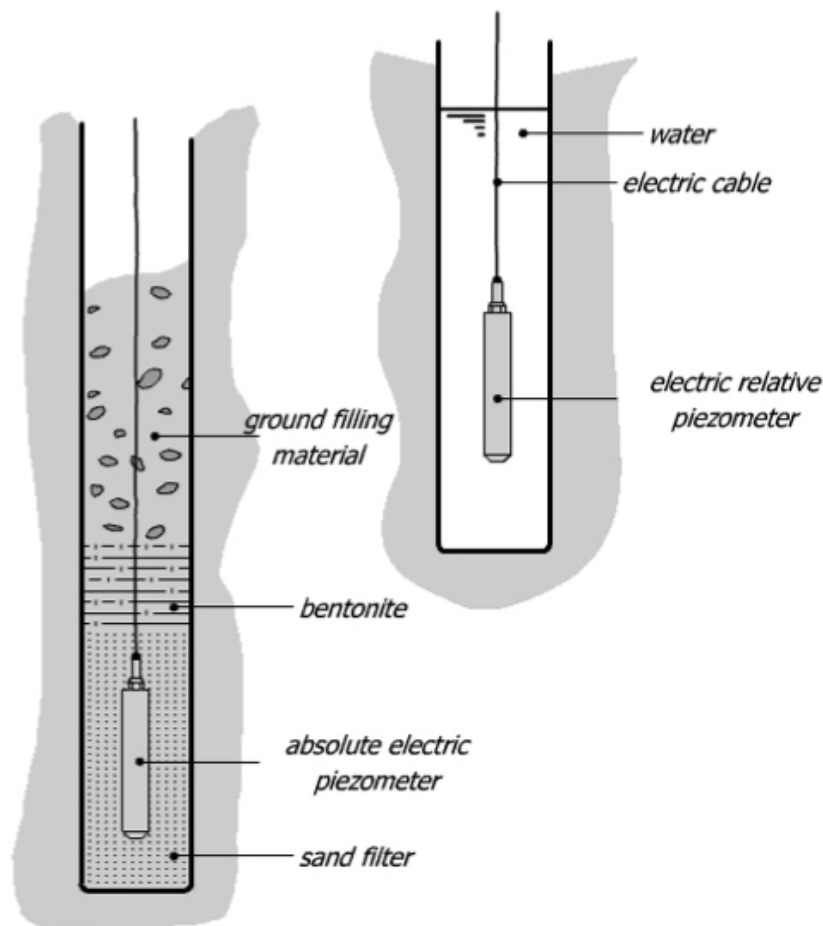
Applications

Measurement of wells level, measurement of interstitial pressure.



LV616

Piezometer with datalogger



Technical features

Model	LV616-AS1-FS* LV616-AS2-FS* LV 616-RL-FS*	
Sensor	Piezoelectric	
Available range	from 0.05 to 1.0 bar every 0.05 bar from 1 to 10 bar for every 0.5 bar	
Overpressure	150 % FS	
Linearity	0.25% FS	
Total thermal error	< 0.04% / °C	
Long term stability	<0.2% FS (1 year)	
Isolation	>100MΩ	
Protection	IP68	IP68 IP61
Temperature sensor	Add -TM to instrument acronym	
Measuring range	-10 ÷ 105°C	
Precision	0.1°C	
Datalogger	MYLOG	
Channels	2	
Converter	16bit	
Input	CH1 Piezometer 4-20mA CH2 Temperature 0-2V	
Real time	✓	
Battery control	✓	
Warm Up	✓	
Com. Speed (BPS)	9600, 57600baud	
Acquisition rate	Programmable from 1min to 24hrs.	
Memory per channel	64.000 data plus date and time	
Housing material	Stainless Steel / PVC	
General		
Power	Power supply 1x3.6V 8500mAh	
Consumption	0.01mA in standby 20mA during connection; 30mA during acquisition	
Average duration	In standby 7 years With an acquisition every hour 2.5 years	
Operating temperature	-20 ÷ +70 °C	
Weight	Mod. -AS1 -RL	Sensor 0.325 Kg / Datalogger 0.780Kg
	Mod. -AS2	0.970Kg
Dimensions	Mod. -AS1 -RL	Sensor Ø25x145mm / Datalogger Ø35x350mm
	Mod. -AS2	Ø35x330 mm
Accessories		
Cap with filter (porous stone)	LV610-AX-FT01	
Ballast	LV610-WT-KG**	
Power supply 1x3.6Vx8500mA	LV616-AX-3685	
Communication Kit (USB cable, driver and software VEDO)	ML-LY-COM	

*FS Indicate sensor range
**KG Indicate the weight in KG (standard 4 Kg)

LV617

Piezometer with datalogger



Description

The LV617 electric piezometers measure pressures, interstitial overpressures and water levels in wells, dams, canals and tanks. The LV 617 series is produced in 3 models:

- LV617-AS1, absolute piezometer capable of detecting interstitial pressures in the ground, equipped with shielded electric cable 4x0.22 with anti-scratch marine grade outer sheath.
- LV617-AS2, absolute piezometer able to detect interstitial pressures in the ground without cable, equipped with a hook for fixing to a suspension cable.
- LV617-RL, relative piezometer, able to detect a hydrostatic pressure, equipped with 4x0.22 shielded electric cable with atmospheric compensation tube and anti-scratch marine grade outer sheath.

The piezometer, inserted in a well, measures the pressure as a direct proportional to the height of the liquid contained in it. The electrical connection cable is fixed to the piezometer casing, allowing it to be recovered without problems. Inside the connection cable a small pipe connects the reference chamber of the transducer with the outside atmosphere, in order to compensate for variations of atmospheric pressure: this is resulting in a relative pressure measurement.

In the -AS2 model, the data acquisition unit and the battery are inside the piezometer casing, while, in the -AS1 and -RL models, the data acquisition unit is located at the head of the hole and the electrical connection cable is supplied based on any desired length.

MYLOG data acquisition system is housed inside a cylindrical body in Stainless Steel or inside a PVC housing.

Acquisition intervals are programmable from 1min to 24h. The WARM UP function can be programmed from 1 to 60 seconds and allows to power supply the sensor prior to recording, in order to stabilize the signal output. MYLOG unit provides all stored setup data as well as the status of the battery. The data is saved in a FLASH memory that can store up to 128,000 readings, in addition to date and time. The datalogger comes with two rods, allowing it to be fixed at the head of the tube.

It is possible to connect the MYLOG unit to a GSM modem.

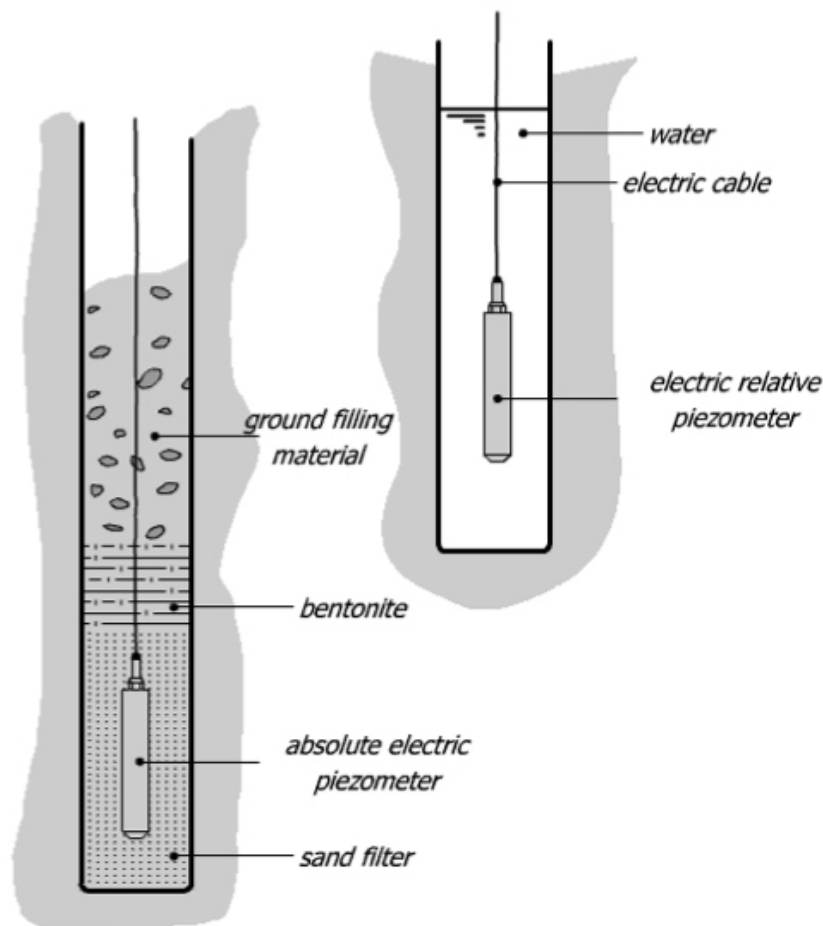
Applications

Measurement of wells level, measurement of interstitial pressure.



LV617

Piezometer with datalogger



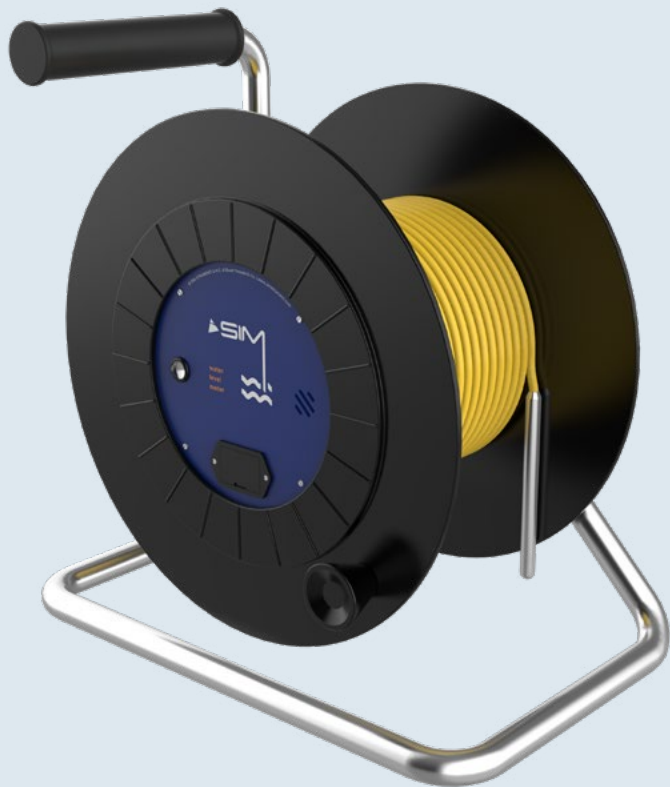
Technical features

Model		LV617-AS1-FS* LV617-AS2-FS* LV 617-RL-FS*	
Sensor		Piezoelectric	
Available range		from 1 to 10 bar for every 0.5 bar	
Overpressure		150 % FS	
Linearity		0.25% FS	
Total thermal error		< 0.04% / °C	
Long term stability		<0.2% FS (1 year)	
Isolation		>100MΩ	
Protection		IP68	IP68 IP61
Dimensions		Ø 16 x 160 mm	
Weight		100 g	
Datalogger		MYLOG	
Channels		2	
Converter		16bit	
Input		CH1 Piezometer 4-20mA CH2 Temperature 0-2V	
Real time		✓	
Battery control		✓	
Warm Up		✓	
Com. Speed (BPS)		9600, 57600baud	
Acquisition rate		Programmable from 1min to 24hrs.	
Memory per channel		64.000 data plus date and time	
Housing material		Stainless Steel / PVC	
General			
Supply		Power supply 3x3.6V 1200mAh	
Consumption		0.01mA standby 20mA during connection; 30mA during acquisition	
Average duration		In standby 10 years With an acquisition every hour 2.5 years	
Operating temperature		-20 ÷ +70 °C	
Weight	Mod. -AS1 -RL	Sensor 0.325 Kg / Datalogger 0.780Kg	
	Mod. -AS2	0.970Kg	
Dimensions	Mod. -AS1 -RL	Sensor Ø16x160mm / Datalogger Ø35x350mm	
	Mod. -AS2	Ø35x330 mm	
Accessories			
Cap with filter (porous stone)		LV611-AX-FT01	
Ballast		LV611-WT-KG**	
Power supply 3x3.6Vx1200mA		LV617-AX-3685	
Communication Kit (USB cable, driver and software VEDO)		ML-LY-COM	

*FS Indicate sensor range
**KG Indicate the weight in KG (standard 4 Kg)

LV620

Water level meter



Description

In order to ease the level measurement in wells and piezometric holes etc., SIM has developed the water level meter LV620, compact, portable and lightweight. The water meter consist of a graduated cable (every centimeter), mounted on a reel and a probe, which after making a contact with the water closes an internal circuit mounted in the central part of the reel. The probe has a diameter of 12 cm, and it can be used with all piezometric tubes of normal use. The probe, as already mentioned, closes an internal circuit, which has an acoustic and a visual signal, mounted in the central part of the cable reel, supplied by a 9V battery, also mounted in the reel. The measurement is done by reading the cable mark, at the time of the activation of the signals. The cable is to be referred to the head tube. SIM supplies upon request a temperature sensor placed in the probe, with a digital display, also place in the central part of the cable reel.

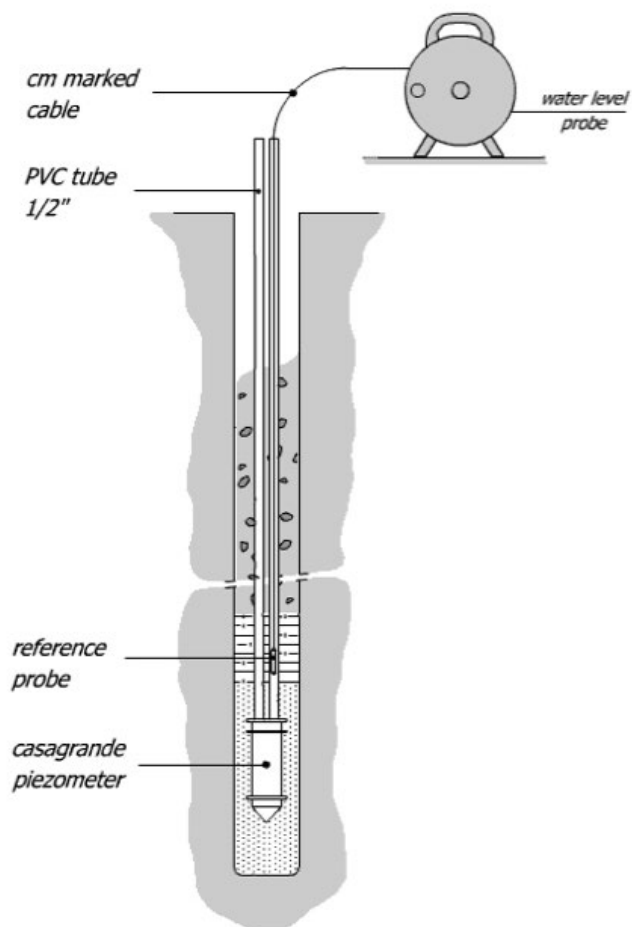
Applications

Underground water level measurement.



LV620

Water level meter



Technical features

Model	LV620-01	LV620-02
Tip		
Material	Stainless steel / PVC	
Dimensions	Ø12 x 150mm	
Cable	Centimeter	Millimeter
Type	Round	Flat
Conductors number	4 + anima in kevlar	2
External sheath	Transparent polyurethane	Transparent polyurethane
Dimensions	Ø4.7mm	10x1mm
Cable length available*	50-100	50-100-150
Cable reel		
Material	Thermoplastic tambour and steel trestle	
	Reel diameter	Ø260 mm
	Width	260 mm
Accuracy	Total height	295 mm
	Depth	175 mm
Cable reel with wheels		
Material	Thermoplastic tambour and steel trestle	
	Reel diameter	Ø420 mm
	Width	475 mm
Accuracy	Total height	610 mm
	Depth	385 mm
Accessories		
Temperature sensor and digital display	Add -T to the model code:	
	LV620-01-T	LV620-02-T

* Indicate the desired cable length

LV621

Water level alarm sensor



Description

The Water Level Alarm Sensor LV621 is a solid state water sensor for detecting the presence of conductive solutions, such as water spills, water tank levels and drainage ponds. The water alarm sensor features two stainless steel electrodes that are positioned at a desired point for liquid detection. When fluid is detected, a relay closes in the water level alarm and the signal can be used for a:

- visual and/or audible alarm,
- pump control,
- SMS message via modem.

The relay output is fully isolated and can handle 2 amps of current.

After the water level alarm sensor is in dry conditions, the detection sensor will automatically reset without requiring additional service. The water level alarm is rugged and durable and requires minimal maintenance.

Applications

Ideal for water spills, tank failure, pump failure, rising water, floods etc.



LV621

Water level alarm sensor



Technical features

Sensor	LV621-SE
Supply	8-24Vcc
Consumption	Continuous 4mA Active 44 mA
Output	Isolated relay
Switching voltage	100Vdc max
Switching current	250 mA max
Dimensions	Ø25mm x 130mm
Weight	170g
Alarm (light and sounder)	LV621-AL
Input	Contact
Output	12Vcc 25mA max
Supply	12V-36cc
Visual alarm	Red light
Audible alarm	95dB 2900Hz
Dimensions	PVC 36cm x Ø6.5
Weight	1.1Kg

Accessories

Modem with alarm	MDS-ADV
-------------------------	----------------

LV625

Portable ultrasonic level meter



Description

The LV625 ultrasonic level meter is a compact, versatile and easy to use battery-powered instrument, which, through sound waves, measures the water level. The measurement can be carried out quickly and precisely, without lowering any tools into the hole, avoiding contamination and the inconvenience of cables to be unrolled and transported. The LV625 level meter allows the detection of the level with 2 measurement scales: in the NORMAL mode the scale goes from 3 to 152 meters, while in the DEEP mode the scale goes from 61 to 366 meters.

Applications

Measurement of wells level in tubes.



LV625

Portable ultrasonic level meter



Technical features

Model	LV625
Range	Normal 3-152mt Deep 61-366mt
Display resolution	0.03 mt
Accuracy	0.06mt
Opearating Temperature	-1 ÷ +60 °C
Supply	8 batteries AA
Dimensions	180x100x130 mm
Weight	1.5Kg

Accessories

Bag	LV625-BG01
------------	-------------------

LV630

Ultrasonic level meter



Description

SIM has developed the ultrasound level meter LV630 in order to monitor the water level in wells, channels, where the absence of moving parts under water allow the instrument to have a very easy installation and having high quality at the same time. This instrument, due to its features, is used for low depth waters, for example, for measuring the flow in channels with V-Notch etc.

The instrument working principle is based on the response time of a sound wave. In the first phase the instrument releases a define number of sound waves, in the second phase it receives back the eco, calculating the time elapsed between the wave sent and the one received. The instrument translate the time elapsed into distance. The output signal produce is mA, and it is directly proportional to the distance between the sensor and the water surface, where 4 mA is max height and 20 mA is the min one.

Every sensor is provided with a calibration certificate that attests the results of the test performed and all electromechanical features.

Manual read out with DATAVIEW.

Automatic read out with MINILOG, MYLOG.

Readout units with NATUN.

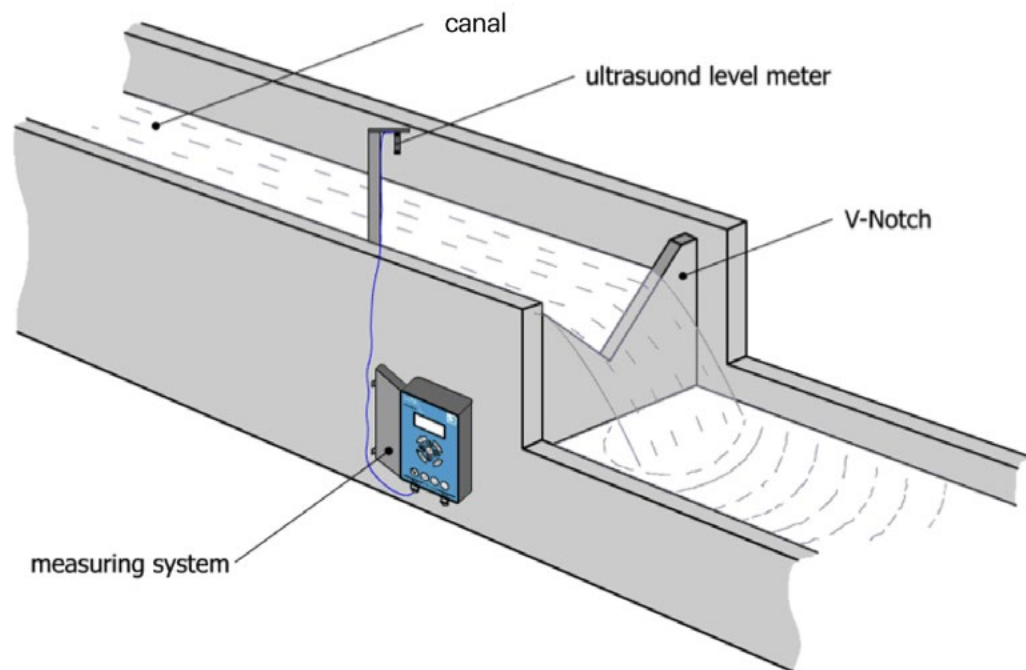
Applications

Water level measurement of dams, basins, rivers, weirs, silos etc.



LV630

Ultrasonic level meter



Technical features

Model	LV630-01-FS*	LV630-02-FS*	LV630-03-FS*
Max range (mt)*	0.1 - 4.3	0.1 - 9.1	0.3 - 15.2
Min range (mt)	0.1 - 0.6	0.1 - 3.0	0.3 - 4.0
Supply	10-30 Vcc		
Output	4-20mA		
Linearity	0.5% FS		
Consumption	70mA max		
Dimensions	Ø26.7x103 M30 x 1.5	Ø48x188mm 1.5"NPT	Ø60x121mm
Angle	12°		
Warm Up	15 sec		
Readout update	50ms	100ms	200ms
Protection	IP68		
Material	Stainless steel		
Weight	0.360Kg	0.560Kg	0.730Kg

Accessories

Puncheon	LV630-MWPL
"L" mounting bracket	LV630-MW00
Mounting beam for LV 630-01	LV630-MW01
Mounting beam for LV 630-02	LV630-MW02
Mounting beam for LV 630-03	LV630-MW03

*FS Indicate the range

LV680

Piezometric head



Description

The piezometric head is an accessory used in the dams for overpressure monitoring. It consists of a cross connector where there are installed:

- Pressure sensor
- Bourdon pressure gauge or digital sensor for on-site visual inspection
- Quick coupling for the control and calibration of the pressure sensor
- Ball valve, to carry out maintenance and / or replacement of the instrumentation.

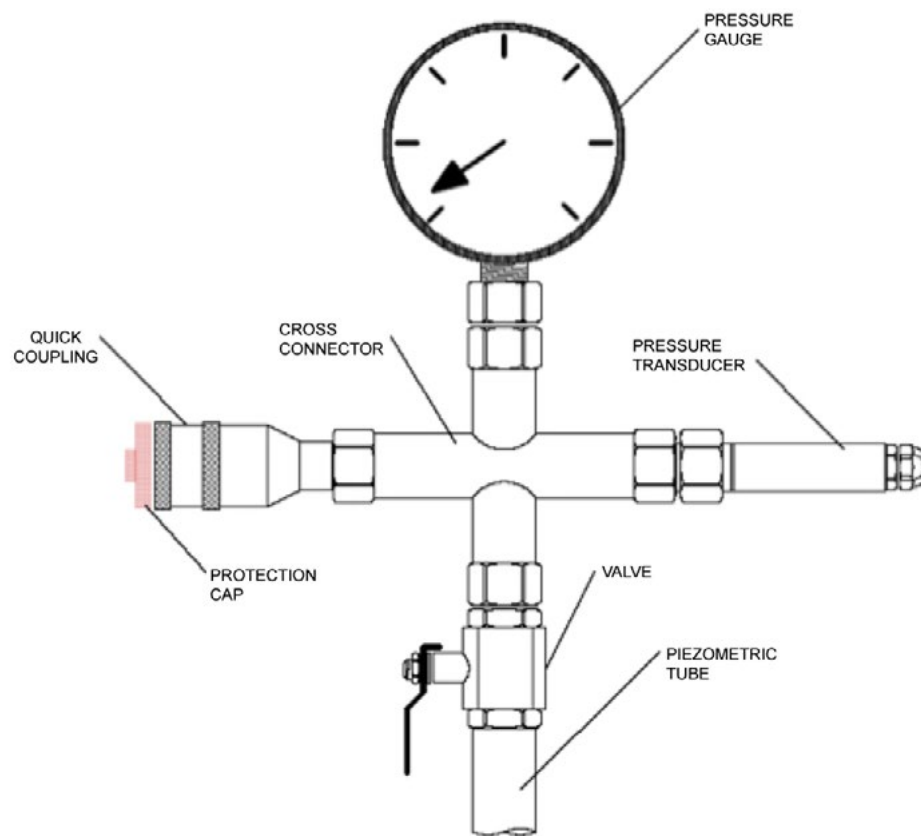
Applications

Measurement of pressure in dams.



LV680

Piezometric head



Technical features

Pressure gauge* **		LV680-M1-DN-FS	LV680-M2-DN-FS	LV680-M3-DN-FS
DN Diameter		63-80-100-150-200-250	63-80-100-150	100-150-200-250
Coupling		G 1/4" for Ø63-80 G1/2" for Ø100-150-200-250		G1/2"
Range		1 - 4 - 6 - 10 - 16 - 25 - 40 - 60 - 100bar		
Accuracy		1% (1.6 for Ø63-80)		0.25% EN837-1
Overload		25%FS (100bar 15%FS)		
Temperature		-30 ÷ 65°C	-5 ÷ 65°C	-10 ÷ 30°C
Protection		IP55	IP65	IP65
Filling		-	Glycerine	-
Material	Box	AISI 304		
	Intern	AISI 316		
	Coupling	AISI 316		
Sensor*		LV680-SE-FS		
Type		Piezoelectric		
Range		1 - 4 - 6 - 10 - 16 - 25 - 40 - 60 - 100bar		
Overload		150%		
Supply		8-24Vcc		
Output		4-20mA		
Linearity		0.25% FS		
Total thermal error		0.04%/°C		
Long term stability		<0.2% FS (1 year)		
Insulation		>100mΩ		
Operating temperature		-25 ÷ 100°C		
Protection		IP68		
Input		¼" male		
Couplings				
Cross connector		Stainless Steel AISI304 4 inputs ¼" female		
Quick coupling		Brass		
Valve		Stainless Steel AISI316 4 inputs ¼" female		
Reducers		Stainless Steel AISI316		

*DN Indicate the nominal diameter of the pressure gauge

*FS Indicate the desired sensor and gauge range

** With the abbreviation LV680-MA-DI-FS it is possible to order a digital manometer specifying in FS the desired full scale

LV690

Submersed purged pump



Description

Submersible pumps mod. LV690 are of high quality and ready to use, representing an economical solution for both draining and sampling. They are ideal to be used in wells from 2" and up to 29 meters deep. They are robust and can pump up to 13 liters per minute.

The LV690 pumps are made of plastic and moving parts are stainless steel. They are equipped with a filter so that any sand or debris residual found in the water does not clog the pump.

It is possible to reduce the flow of the outlet water by mounting a valve at the end of the pipe or reducing the electric current.

The life expectancy of the pump is about 400 hours.

Applications

Sampling and draining.



LV690

Submersed purged pump

Technical features										
Model		LV690-40				LV690-60		LV690-90		
Supply		12Vcc								
Max. current		5 amp				10 amp				
Dimension		129xØ36mm				258xØ36mm		387xØ36mm		
Outlet connection		Ø11mm (3/8")								
Cable lenght		15.24				20.11		28.95		
Temperature		66°								
Notes		Pump casing				ABS				
		Impeller casing				Stainless Steel/PBT				
		Filter				Polypropylene				
		Gasket				Nitrile				
		Cable				PVC				
Recommended operation		15 minutes operation and 5 minutes break								
Yield table										
Current		Yield in liters/minute at various depths (m)								
Model	consumption	3	6	9	12	15	18	21	24	27
LV690-40	2.0-3.5Amp	12	7.5	3.8	0.4	-	-	-	-	-
LV690-60	3.3-6.4Amp	11	8.7	6	4.1	1.9	0.4	-	-	-
LV690-90	5.1-8.0Amp	13	12	10	8.3	6.4	5.3	3.4	2.3	0.7
Accessories										
Outlet connection Ø13mm (1/2")						LV690-AX-01				



SIM STRUMENTI SNC

Via Merendi 42
20007 CORNAREDO (MI)
ITALY
Tel: +39 0297003039
Fax: +39 0297290167
www.simstrumenti.com
info@simstrumenti.com