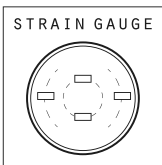
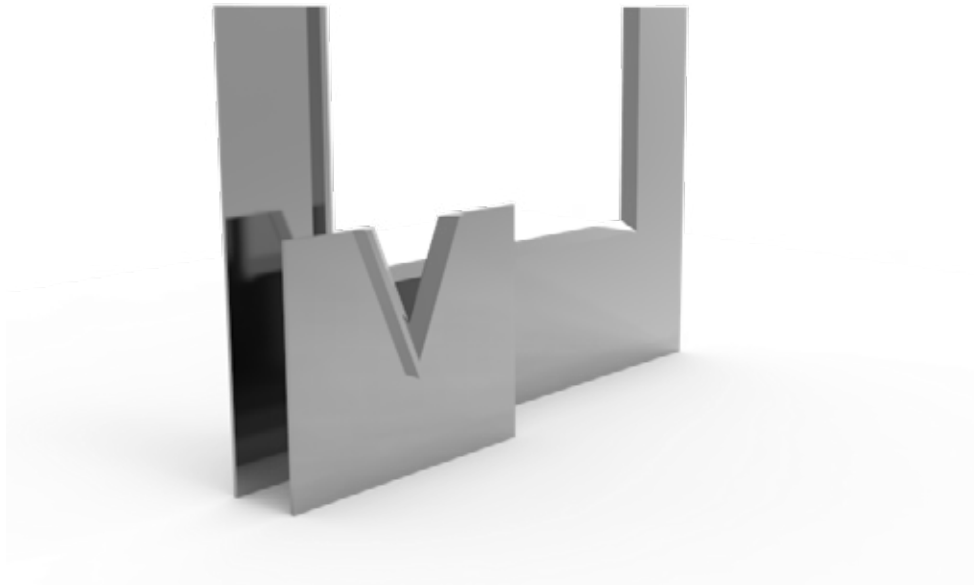


V-NOTCH

— **V-NOTCH**
FLOW METERS

HYDROLOGICAL
INSTRUMENTS



V - NOTCH FLOW METERS

Water flow monitoring in open channels is widely employed in environmental and geotechnical field.

Leakage measurement is one of the most important indicator of the overall performance of earth/rock-fill and concrete dams.

The leakage rate is a function of the water level in the reservoir and depends either from the construction than the behaviour of the dam. Consequently, leakage monitoring provides data for the evaluation of the long term stability of the dam constructions.


Leakage water is usually impounded downstream of the dam and diverted to a basin in a weir-station.

APPLICATIONS

- Leakage measurement in concrete and earth dam
- Open channels flow rate
- Drainage systems in tunnels and excavations

FEATURES

- Suitable for both manual reading and remote monitoring
- Available both triangular and rectangular notch plate
- Utilize high accuracy transducer
- Easy to automate with OMNIAlog logger family

 *Meet the essential requirements of the EMC Directive 2014/30/UE*

NOTCHED WEIRS

The weirs are sharp crested stainless steel plates with a specially shaped opening (or notch). They should be installed in open canals in order to measure the instant flooding.

	MODEL 0QV45LS1000	MODEL 0QV60LS2000
Flow working range	0.5 to 10 l / sec	0.7 to 20 l / sec
Notch shape	triangular, 45°	triangular, 60°
V-notch dimension (WxH)	195x235 mm	288x250 mm
Plate dimension (WxH)	490x600 mm	721x700 mm
Thickness	5 mm	5 mm
Material	AISI 304 stainless steel	AISI 304 stainless steel

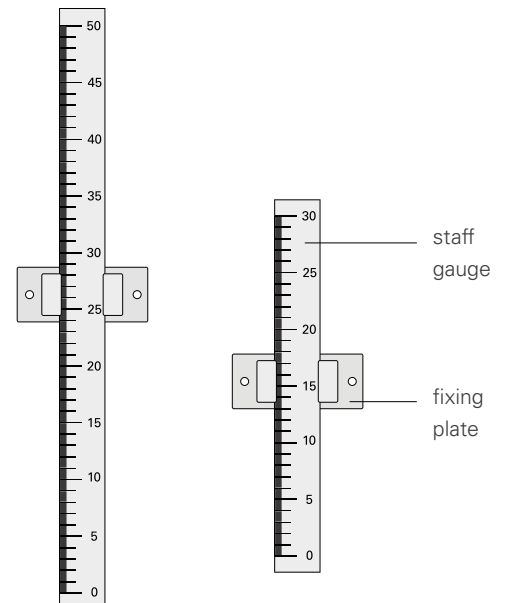
	MODEL 0QV90LS5060	MODEL 0QU90LS5000
Flow working range	1.2 to 50 l / sec	9 to 50 l / sec
Notch shape	triangular, 90°	rectangular
V-notch dimension (WxH)	600x300 mm	350x200 mm
Plate dimension (WxH)	1000x700 mm	540x450 mm
Thickness	6 mm	5 mm
Material	AISI 304 stainless steel	AISI 304 stainless steel

STAFF GAUGES

Water level variations in the stilling basin could be manually carried out by means of a stainless steel staff gauge with millimeter graduation.

	MODEL 0QVHI030000
Length	300 mm
Width	40 mm
Material	AISI 304 stainless steel

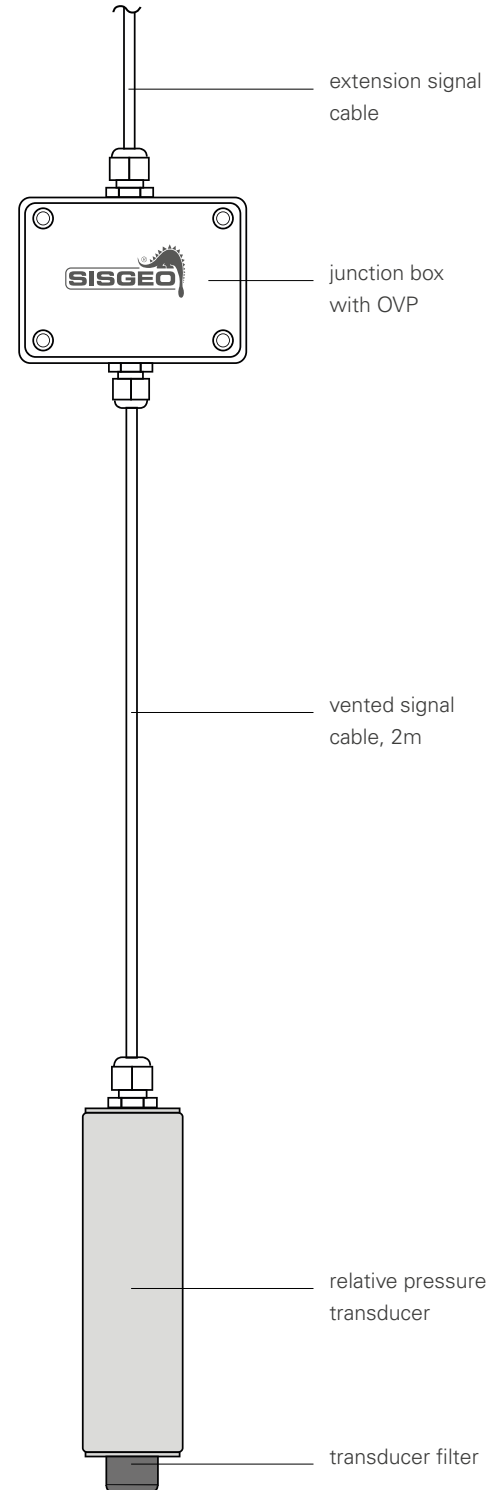
	MODEL 0QVHI050000
Length	500 mm
Width	40 mm
Material	AISI 304 stainless steel



WATER LEVEL TRANSDUCER

The water level transducer model 0QVML000EX consists of a relative pressure transducer connected with 2m vented cable to a junction box containing a 3-levels overvoltage protections. The system can be connected through an extension cable to a datalogger for automatic data management and alerting.

	MODEL 0QVML000EX CE
Sensor type	ceramic capacitive pressure transducer
Measuring range	500 mm or 1000 mm of water column
Total accuracy (lineary + hysteresis + repeatability)	< ±0.2% FS
Proof pressure	1.2 bar (about 12000 mm water column)
Burst pressure	2.4 bar (about 24000 mm water column)
Operating temperature range	-20°C + 80°C
Output signal	4-20 mA (current loop)
Power supply	15-24 V DC
Dimensions	
- pressure transducer	210 mm, OD 48,3 mm
- junction box (LxWxH)	110 x 80 x 65 mm
Materials	
- pressure transducer	stainless steel
- junction box	ABS



ACCESSORIES AND SPARE PARTS

PRESSURE TRANSDUCER 0P252Q00000

Relative pressure transducer available with 0.5 and 1.0 m H₂O full scale (spare).

JUNCTION BOX WITH OVP 0EDP002W000

Vented junction box with 3-levels overvoltage protections (OVP), suitable for 2-wires instruments (spare).

2-WIRES VENTED SIGNAL CABLE 0WE203KE0ZH

2-wires 20 AWG signal cable with vented tube for barometric compensation. Flame retardant polyolefin inner jacket and LSZH M1 technopolymer external jacket.

EXTENSION SIGNAL CABLES 0WE102KE0ZH

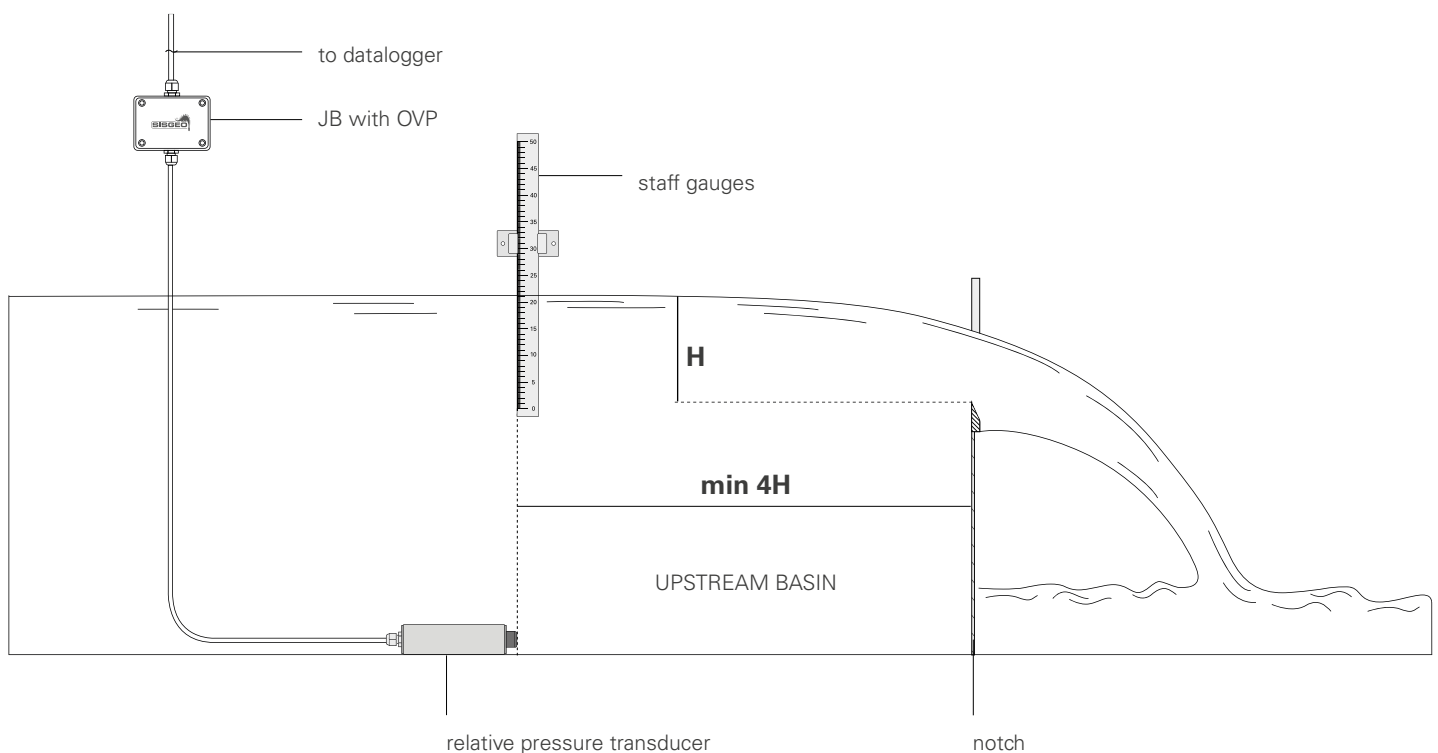
2-wires 20 AWG signal cable with flame retardant polyolefin inner jacket and LSZH M1 technopolymer external jacket.

OPERATING PRINCIPLE

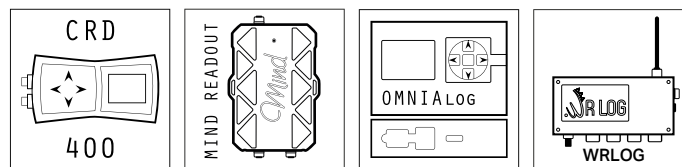
Notched weirs operate on the principle that an obstruction in a canal will cause an hydraulic jump, creating a high level behind the barrier with a typical low water current (no turbulent motion). The purpose of the notched weir is to transform the water level in the upstream basin into instantaneous flow values of the canal where the weir is installed. To allow this, a specific formula is used: it considers that the flow rate is function of the notch shape and proportional to the water depth "H", called head.

For reliable measurements, the following conditions must be verified:

- the canal upstream will have a fair slope (1-3%) and rectangular section for a length of at least 10L (where L=width of canal);
- the measuring point of the water head "H" will be at a minimum distance of about 4H from the weir;
- be sure the air under the water which floods immediately after the weir, will be in contact with the barometric pressure (do not create a closed chamber);
- the possibility of solid materials being drawn by the current and deposited upstream of the measuring equipment will be kept in mind. Accumulated sediments may affect the reliability of measurements, so that sediments should be cleared regularly;
- water will be carried away from the weir in the downstream in order to not interfere with the notch.



READABLE BY



For further information refer to their own datasheets

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ADDITIONAL SUPPORT

SISGEO offers on-line assistance service to the Customers in order to maximize the performance of the system and training on the correct use of the instrument/readout.

For more information contact mail: assistance@sisgeo.com