



## The TC 15/30 Water-coupled Piezoelectric Transducers

### DESCRIPTION

The piezoelectric transducers are mainly used as downhole seismic receivers but, with optional accessories, can also be used as a bottom array for shallow waters and marsh areas and as a sensor array placed along tunnel walls, dams and other dry or wet concrete and rock structures.

### THE TRANSDUCER MODULE:

- Piezoceramic element

Resonant frequency:  
>35KHz  
- Dynamic response: 150-190 dB, nominal

### APPLICATIONS

The TC15/30 can be used in a wide range of applications, they include:

- crosshole surveys
- tomographic imaging
- location of fractured zones
- assessing the constructability of the rock and earth
- ore bodies delineation
- inverse VSP surveys

Pre-amplifier, differential or single-ended output. (The amplifier characteristics can be modified to meet various requirements.)

- Casing

The casing has o-rings fittings, permitting easy service and even the replacement of a module, in case of malfunction after long-term service rough conditions. This solution prolongs significantly the operational life of the hydrophone chain as a whole.

### MAJOR BENEFITS

EXCELLENT RECEIVER FOR BOREHOLE SEISMIC SURVEYS

OPERATES IN CONFINED SPACES

VERY GOOD DATA QUALITY

ENVIRONMENTALLY FRIENDLY



# SYSTEM COMPONENTS

## SYSTEM MODULES

1. The **power supply & controller** transfers to/from the receivers the control/data signals.
2. The **hydrophone chain** detects & amplifies the seismic signal
3. The borehole **accessories** used for positioning and fixing (such as: wheel mount assembly, optional)
4. A variety of **seismographs** can be used, they include Geode, StrataVisor, StrataView and Terraloc



## SPECIFICATIONS

### FUNCTIONAL CHARACTERISTICS

- Frequency range: 15 Hz--35 kHz (Optional 3 Hz--35 kHz, Low cut settable at manufacturing stage)
- Sensitivity: 0.1 mA / m bar
- Omnidirectional up to 35 kHz (the effect of the borehole not considered).
- Output impedance: less than 110 W at 1 kHz
- Power requirements: +/-12 V CC

### DIMENSIONS

- Diameter across the hydrophones: 40 mm / Length of the hydrophone: 135 mm
- The standard housing of the TC hydrophones is cylindrical with cylindrical-conic endings. (Housing available optionally in a range of shapes and materials).

### OPERATIONAL CHARACTERISTICS

Operating depth:

- 500 m with housing of Murytal C ®.
- 1000m with housing of stainless steel.

