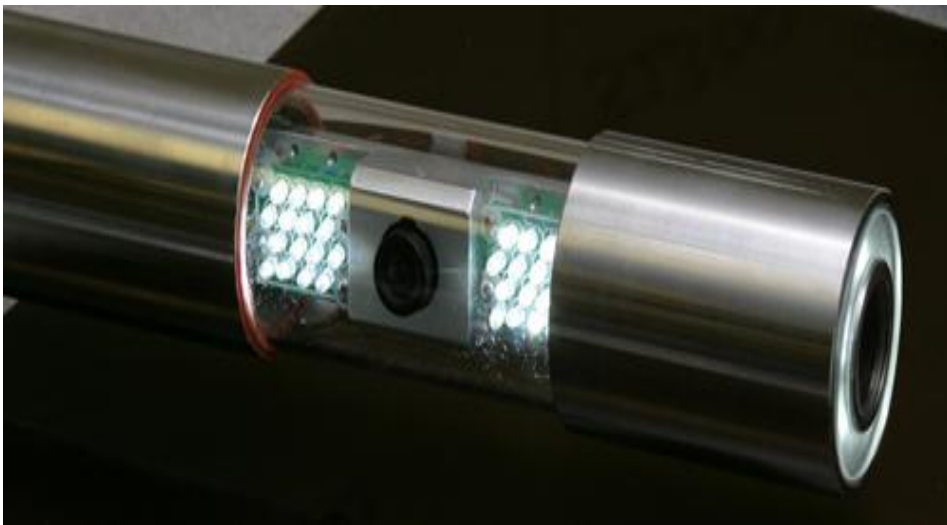




Water Well Services:

Established in 2005 both in Romania and Austria, the ECEXA partner has been among the first service companies worldwide to apply a special method in regeneration of water wells, the so-called impulse generator technology.

ECEXA provides solutions for any customer requirements in the field of water wells, ranging from simple water well repairs and regeneration of potable water/process water wells up to turnkey projects together with our partners



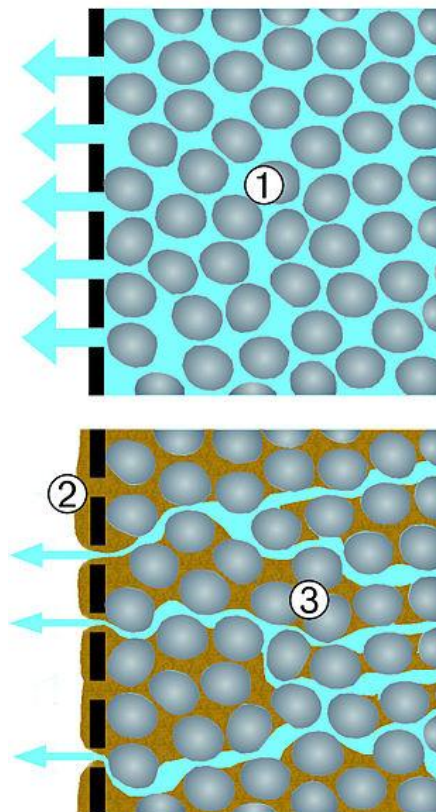
Water Well Services:

- ❖ water well regeneration services
 - Video-inspection (TV-inspection)
 - well regeneration by means of impulse generators or other single methods or a combination
 - airlift
 - “fishing”
 - pumping test
- ❖ hydrological surveys
- ❖ exploration services
- ❖ water well drilling services
- ❖ water well installation services
- ❖ water sampling & analyses
- ❖ water well logging services
- ❖ water well monitoring & visualization



Impulse generator (1)

When constructing a new water well (1), the tubing casing, the well bottom and the gravel pack should be free from debris. But even at newly drilled wells, bentonite or other drilling fluids can influence the proper performance of the wells. Often, after a certain period of well operation, little by little sediments/colmanates arise which can be differentiated into interior (2) and exterior (3) sediments.



Impulse generator (2)

The purpose of each well regeneration is not only to remove the visible sediments inside the casing but also the hidden sediments behind the casing in order to achieve sustained cleaning success and thus an increased performance in the yield of the well. One of the most efficient technologies in this regards is the so-called “pulsing”.



Pulsing is a hydraulic pulse process, certified by the German DVGW technical bulletin W 130, based on the sudden expansion of highly compressed gas or liquids, mainly for the increase and/or recovery of the productivity of water wells and drillings.

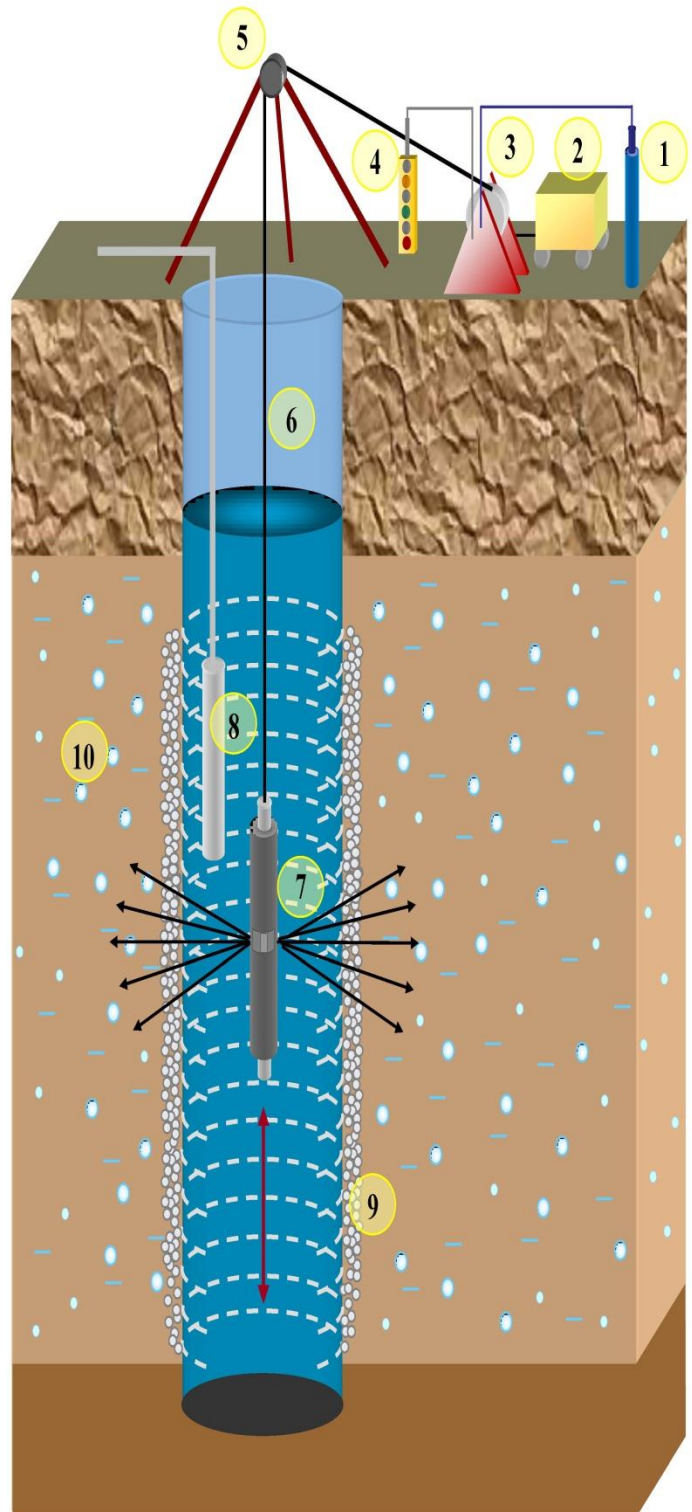
Impulse generator (3)

By pulsating gas portions under high pressure effected by a pulse generator - which is brought into the well by a flexible pressure hose - pressure pulse strings are produced. The pulse generator is equipped with a valve system, being able to release accumulated energy in form of high-pressure gas in very short response times (milliseconds) by opening large cross sections developing hydraulic shock waves. At the same time, due to the sudden change in volume, a cavitation effect is caused, resulting in a "vacuum blister", producing a hydraulic "suction wave" after collapsing.

The alternating effect of the pressure load and release is causing a loosening of the fine fractions, sinterings, sedimentary depositions etc. which were in-rinsed into the gravel filling and the pore area of the aquifer. The so-loosened colmanate is transported by the "suction wave" to the well center, where it is pumped off (by means of airlift).

Impuls- generator (4)

- (1) compressor or compressed-air bottles
- (2) electric powered generator
- (3) electrical hose reel
- (4) control unit
- (5) tripod with guide roller and depth counter
- (6) compressed-air hose
- (7) pulse generator
- (8) submersible pump
- (9) filter pipe with gravel
- (10) aquifer



Video-inspection



Brushing



Pulsing



Airlift / sand clearing



Thank you for your attention



- **E.C.E.X.A.** - Environmental Concepts Exchange Association
- Strohberggasse 16,
- 1120 Wien, Austria
- Tel: ++43 (0)664142 03 06
- office@ecexa.at, www.ecexa.at