



A NEW & INNOVATIVE DEVICE:

The TnT ... ***STORM*** 

The word 'STORM' is written in a large, bold, italicized serif font. To its right is a stylized icon of a storm or tornado, consisting of several concentric, curved lines that spiral downwards.



Our Technology:

The STORM is an innovative, proprietary device that effectively and efficiently removes heavy oil deposits, asphaltene-resin-paraffin deposits (ARPD), coke and other various deposits from piping in the oil-producing, oil-refining and petrochemical industries!





The use of our 'STORM' device in the oil-producing, oil-refining and petrochemical industries allows for:

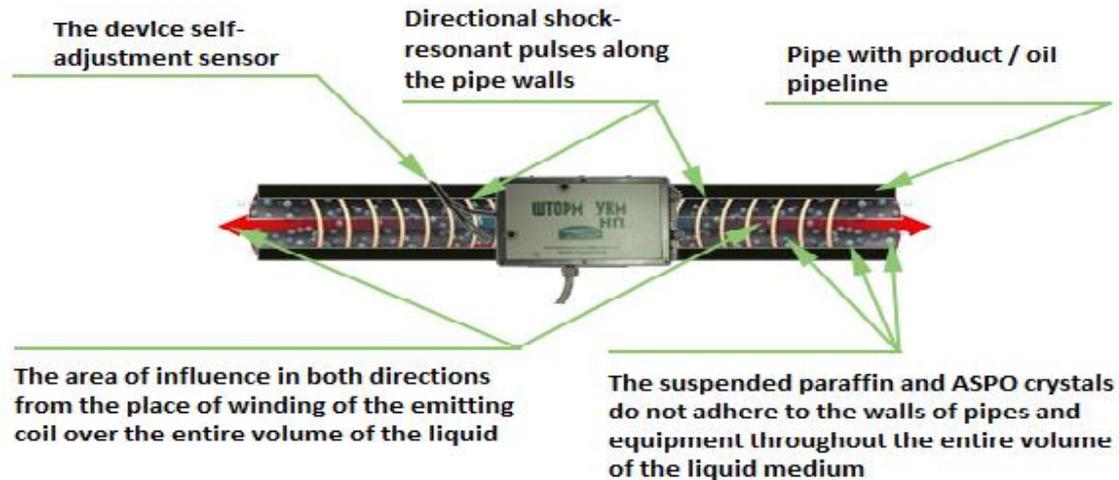
- Prevention and removal of coke formation on internal processing lines and nodes, on oil heating furnaces.
- Significantly reduces, and in some cases, prevents the formation of ARPD and other deposits in the pipes of oil well tubing, flow lines, as well as on oil transfer and distillation lines.
- Increase the productivity of oil wells, at times to reduce the number of washes and mechanical cleaning (from 5-6 times to 1 time).
- Prevents deposits of different character on rod pumps and ESP.
- Clean and protect the inner walls of the tubing and oilfield equipment in the oil well without stopping the operation of the well itself and oilfield equipment.
- Increase the service life of the equipment.
- Obtain a significant economic effect by reducing the operating costs for cleaning equipment.
- Protect the oil pipeline from the formation of internal corrosion, ARPD and other various deposits.
- Protect technological lines in the oil refining and petrochemical industry.
- Elimination of scaling problem: removal of old deposits of hardness salts and solution of the problem with the formation of fresh salt formations and sediments;
- Prevent the development of corrosion resulting from the formation of salts.





What's it made of:

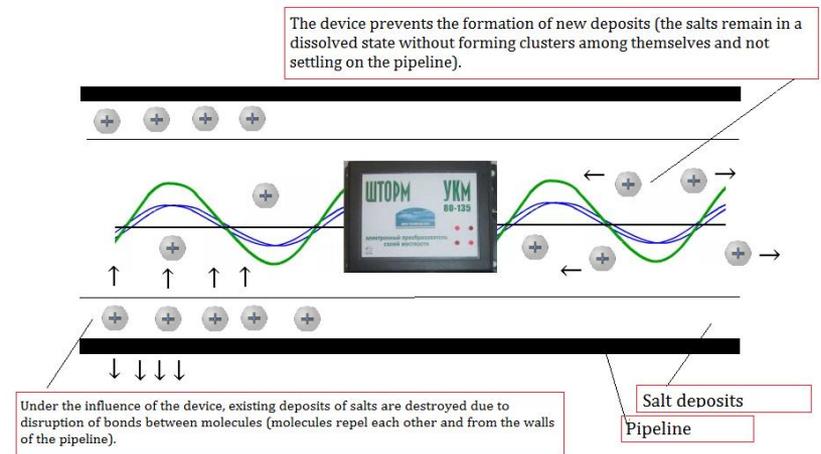
Within its design, the STORM utilizes nanomaterials (nano-technical compounds) possessing increased dielectric properties, as well as high thermal conductivity. This in turn leads to an increase in the effectiveness of the impact of the apparatus for cleaning and protecting oil wells, tubing, pumps of various modifications, oil pipelines and process pipelines oil transfer units / units, oil heating units and other equipment from ARPD, coke, slag and other various deposits.





How does it work:

- Shock resonant-frequency signals, with a tightly calculated frequency of magneto-hydrodynamic resonance, produced by the device, propagate in both directions from the installation site of the emitter along the walls of the pipe itself (the body of the pipe in this case serves as a core and is a continuation of the design of the device itself), simultaneously processing the entire mass of liquid environment located inside the pipeline along its entire length.
- Under the influence of shock-resonant radio-frequency waves (pulses) produced by the programmed emitter of the device itself, the physical properties of the medium undergo a change at the molecular level. The repulsion of ions of the same name from the walls of pipes and equipment occurs, causing the formation of clusters and then their ordering, so that crystallization does not occur on the walls of pipes and equipment - but in the bulk of the liquid medium in the pipeline away from the walls. At the molecular level, the process of crystallization of paraffin and other deposits present in crude oil in the liquid state is changing. The kinetics of the crystallization process is changing - the mechanical cohesion of viscous paraffin, ARPD and various types of deposits with each other is reduced.





Four variations of the STORM device are built:

Each STORM device is produced strictly for the specific object of the customer, taking into account all the nuances of the object itself. The device is initially tuned to the desired diameter of the protected pipeline / oil pipeline / oil well line during the production process. It is then precisely laid-in accurate calculation for a certain diameter that allows the resonant-frequency signals of the radio-frequency spectrum of radiation to be changed at a certain molecular magnetic resonance frequency physical properties of the medium to be treated. This allows STORM equipment to produce highly effective cleaning and protection of oilfield and oil refining equipment.

- STORM devices are manufactured in an explosion-proof metal case.
- STORM devices are delivered to the customer completely in the assembled and tuned state, ready for operation with a connected power cable, a radiator as well as a resonance tuning sensor and a hermetically sealed cover.
- The operation of the STORM apparatus requires a power supplied (220 ± 22) AC Volts with a frequency of (60 ± 1) Hz. The power consumption of the device (depending on the object) varies from 10 to 26 watts.
- The STORM device can be safely installed outdoors, indoors as well as underground (when executed in a special underground version). Operating temperature of the environment for the operation of STORM device is from -65 to +75 0C, humidity up to 100%.





device variations continued ...

1. STORM UNN: the device is designed for installation on furnaces for heating oil and oil products. Prevents the formation of coke, slag, ARPD and other types of deposits and adhesion in the process of heating oil products, as well as removes and destroys the already existing coke formation and various types of deposits in the technological sections and coils of furnaces and heating installations for oil and petroleum products. It destroys and removes coke, slag, ARPD and other layers that form during the heating of highly viscous fractions, when mixing different types of petroleum products with other fractions. Apparatus "STORM UNN" can be used on furnaces and installations for heating oil products in the process of obtaining bitumen and other products. A distinctive feature of the STORM UNN device is that it work at ambient temperatures ranging from -50 to +80 Celsius and plant furnaces for heating oil and oil products up to + 6000C.
2. STORM NS: the device is designed for the removal of wax and for preventing, removing paraffin, ARPD and mechanical impurities at oil wells, directly in the tubing elevator, along the tubing and in the discharge lines. It ensures the destruction and removal of existing deposits of paraffin, ARPD, mechanical impurities, prevents and slows the precipitation of paraffin, ARPD and other types of layers in the tubing elevator, along the tubing and in the discharge lines, and increases the service life.





device variations continued ...

3. STORM NP: The device is used to a dewax process pipelines, oil pipelines, oil transfer / distillation lines, during the transportation of oil and oil products through pipelines. By its influence, "STORM NP" partially reduces the viscosity of the pumped product. By acting on the oil product, it allows to speed up the process of separating the reservoir water contained in the extracted crude oil to a considerable extent, preventing abundant fallout and the formation of paraffin, ARPD and other deposits on the walls of the equipment being operated.
4. STORM EMU: the devise removes salt, scaling and other types of deposits formed on the metal surfaces of oilfield and oil refining equipment, technological and heat exchange equipment in the field of heat power engineering. The main factor in the successful operation of the "STORM EMU" device for removing salt deposits and hardened salt is the presence of fluid motion through the process system and any heat exchange sections.





Heat exchanger and furnace applications:

- The use of the STORM device effectively replaces the existing methods of preventing coke from forming in heat exchangers and oil heating furnaces, radically reducing operating and maintenance costs.
- Using the STORM device has proven not only to provide effective protection from coke formation, but also highly efficient removal of old coke deposits and slag layers on coils of oil heating furnaces, resulting in:
 - reduced costs to heat the liquid product
 - prolonged service life of heat exchangers from reduced pulling for mechanical cleaning
 - prolonged service life of heating furnace tubes from reduced pigging / mechanical cleaning
 - reduced operating costs for maintenance and repair of equipment





Downhole applications:

As a result of an operating STORM device, the crystallization of paraffin, ARPD and other types of deposits / impurities does not occur on the walls of pipes and equipment, but in the very volume of the liquid medium inside the pipe / pipeline throughout its length, far from the metal walls of pipes and equipment. The range of influence of the STORM device on ARPD, the paraffin and other deposits formed on the inner walls of the tubing pipes, flow lines, the oil pipeline, oil transfer lines and technological nodes depends directly on the diameter of the pipe itself and the specific apparatus intended for each STORM device. The area effected by the STORM extends along the entire length of the oil well and discharge lines in order to effectively combat ARPD, paraffin and other strata on oilfield equipment.

