

THE OVERVIEW OF SOFPAC THE ELECTRONIC METHOD OF SOLVING SCALE

Sofpac- *The Water conditioner & Electronic Descaler, the most modern American technology, aims at increasing your economic efficiency in Industries such as: saving fuel, material, labour... and lengthen the life time of your water-using and heating- exchange systems by stopping lime build-up and dissolving existing scale inside the conduit.*

I. Features:

- Patented computer generated triangulated waveform.
- Models capable to descale from 1" to 14" main water lines
- High quality sealed plastic casing.
- Audible fault alarm and testing system.
- Switch for remote visual operating verification.
- Simple installation, No plumping change needed.

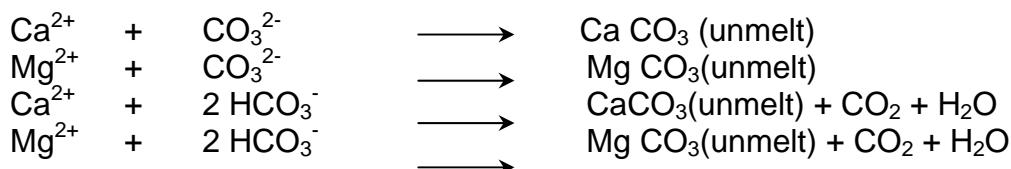
II. How it works:

The high technology – Water conditioner & Electronic Descaler consists of an electronic micro unit and one signal cable system. Supplying the electronic micro unit a 220V electric power, it creates out one Electromagnetic wave with the triangular form at frequency from $2500 \div 7000$ times per second, the wave power from $25 \text{ mAMPS} \div 250 \text{ mAMPS}$. Through the signal cable system (which is tied around the outside of the water lines), the Electromagnetic wave acts and changes the physical and chemical characters of scale-factors: Ca^{2+} , Mg^{2+} ..., which then can not be able to adhere on the inside wall of the conduit and the heat changing equipment. The scaling factors are neutralized then go outside through the water flow. Especially, **Sofpac** can break and clean the old dirt in the water tube system, and in the heating exchange system.

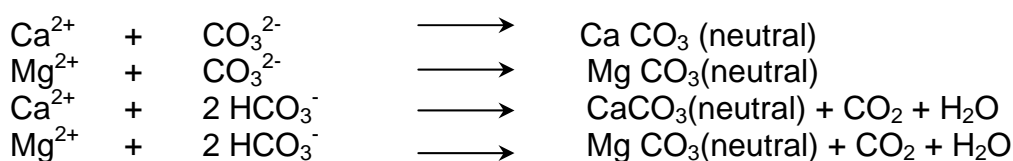
We can see as follow:

As we all know that, Ca^{2+} , Mg^{2+} , CO_3^{2-} , HCO_3^- ... are available in the water, during the operation process of the water heating equipments, the cations and anions tend to form scale and adhere on the inside of the conduit and boiler.

The process as :

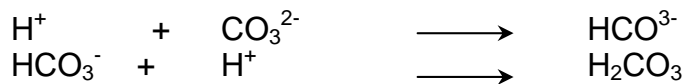


When the **Sofpac** is used, the process as follow:

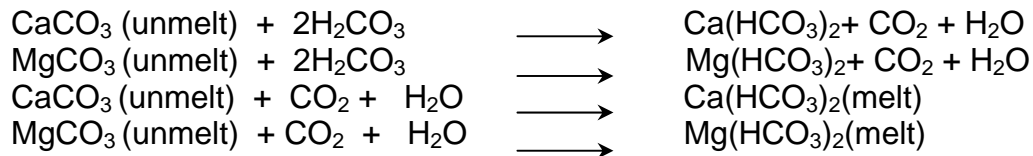


How can **Sofpac** break and remove the old dirt and scale:

(Under the effect of the **Sofpac**, water is separated to be H^+ , OH^- , then H^+ combines with CO_3^{2-} (available in the water) to form the weak H_2CO_3), as follow:



It is known that $CaCO_3$, $MgCO_3$ are easily melt in the H_2CO_3 environment, it happens as:

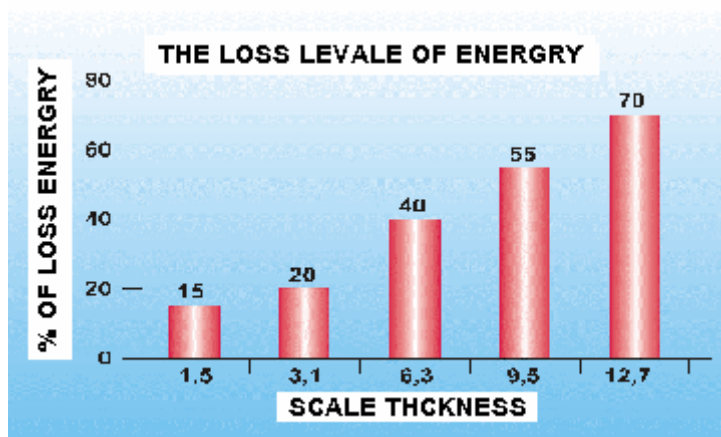


When the old dirt is broken and melt in the H_2CO_3 environment, it contemporary releases CO_2 gas. And in the high pressure, CO_2 gas melt in the water completely, that lead to the higher in breaking and melting $CaCO_3$, $MgCO_3$ adhered on the inside wall of the conduit.

The above is a circulatory of the chemical reactions under the action of **Sofpac**. In addition, during the process the other scales like: Fe, Si... are also erased.

IV. Benefits of using Sofpac:

- Low capital investment
- No chemicals using when **Sofpac** is applied, economical and safe for your equipment.
- Save energy:
 - The energy to operate **Sofpac** is 30 w/h.
 - Save energy in industrial manufacture, the test results shown:



- No maintenance, no operation labour because **Sofpac** is designed to work automatically.
- No new scales formation.
- No changes in chemical characteristic of water.
- Lengthen the lifetime of your equipment.
- Easy in installation.
- Close to the environment: Safety in operation, the electromagnetism of **Sofpac** is smaller than the earth's so that it is safe to people.
- 3 years insurance.

IV. Sofpac's effect test:

1. In sense and real result.

The result of **Sofpac** belongs to the quality of water using and the thickness of scale. In general, from 2 ÷ 4 first weeks there is no new scale formation, the old one becomes softer and gradually comes off, through the water flow. After 2 ÷ 3 months the result can be seen clearly

2. In test.

- The electricity conduct degree slightly increases
- PH degree decreases around 0.3 – 0.5, safe to your equipment
- The dirt in the water decreases gradually and becomes stable after 2 weeks of using **Sofpac**.

(These inquiriment above belong to the water quality, water quantity and the real time operation of the Equipment)

This is a document that we have gained through the mechanical document studies of Sofpac's manufactures and the real installation in hundreds of Factories, Enterprises... in Viet nam and in the world.

For more information, please contact

Quang Duong Industrial Equipment & Trade Company

Office : 38 – Nguyen Cong- Hoan, Ba Dinh, Ha Noi, Viet Nam

Tel: 84.4.37716.367

Fax: 84.4.37716.440

E- mail: qdcompany@hn.vnn.vn Website: www.quangduong.vn

Mobile: Ha noi: 0903.404.001 Đà Nẵng: 0903.504.045 HCM City: 0902.964.236