CRT for desalination

❯ Desalination comes naturally to titanium

Reliable water supplies are crucial for residential, commercial and industrial activity throughout the world. But in an increasing number of places, the desalination of sea water is the only way of ensuring a useful supply of clean water.

Sea water is, however, extremely corrosive for the installations used to transport, pump and process it. And every operator knows that corrosion means expensive down-time as well as costly, time-consuming maintenance and repairs.

CRT makes a difference

Only one structural metal is practicable for use in the pumps that play a vital role in desalination facilities - and that metal is titanium. Titanium is the ideal solution because sea water has simply no effect whatsoever on its surfaces or properties.

In Grundfos CRT pumps, all components in contact with the pumped liquid are made of titanium.

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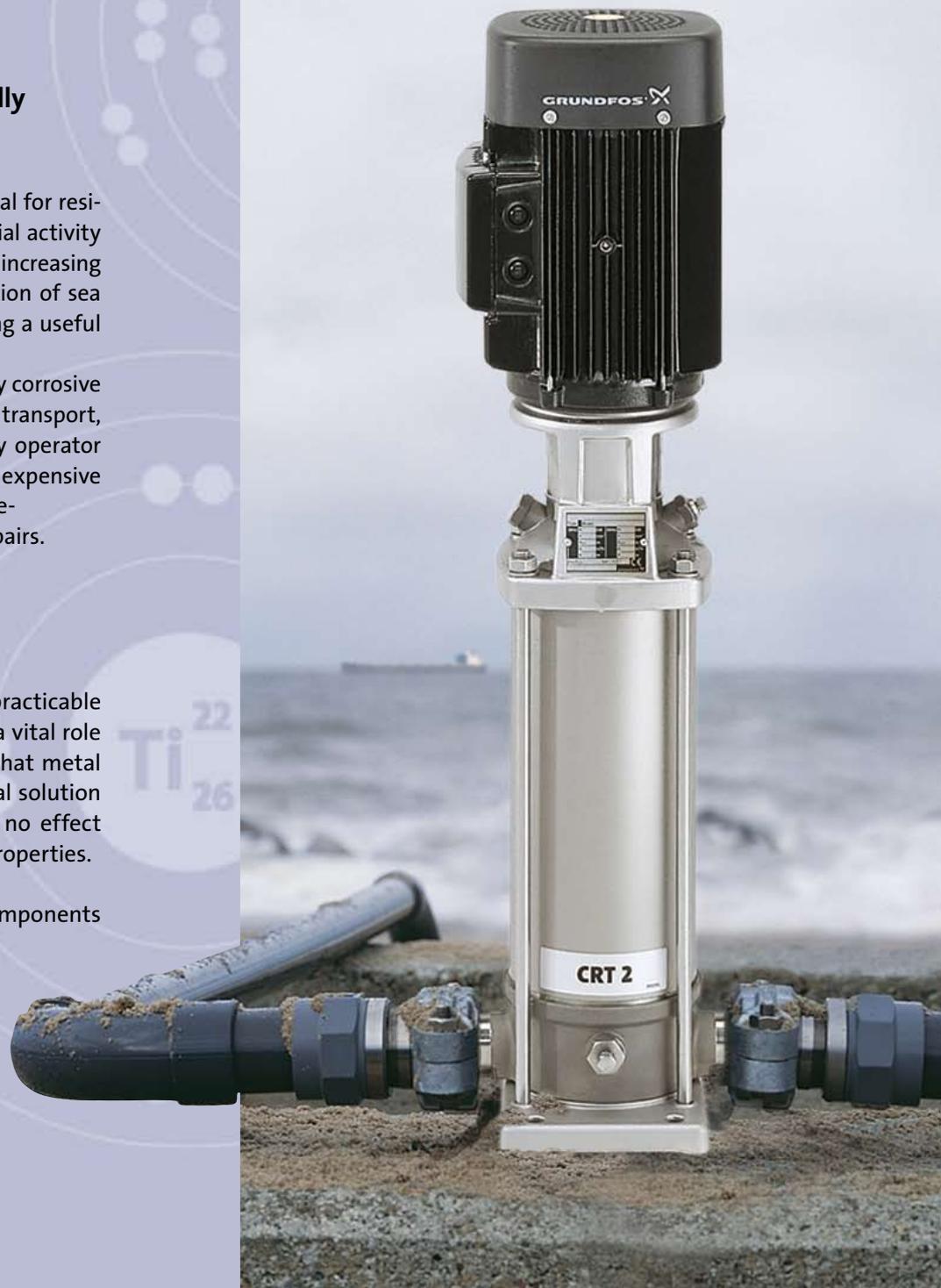
Naturally unaffected

Titanium is unique among metals in being able to withstand attack by chlorides and other aggressive liquids. This is due to a highly stable, highly adherent oxide film that completely protects the surface against all forms of corrosion, forming instantly whenever a fresh metal surface is exposed to air or moisture.

Although these naturally formed films are typically less than 10 nm thick and are invisible to the naked eye, they make titanium immune to corrosive attack by sea water or marine atmospheres of all kinds.

The oxide film formed on titanium is more protective than that on stainless steel, and it often performs well in media that cause pitting and crevice corrosion in the latter (e.g. seawater, wet chlorine, organic chlorides).

Building on natural advantages

Grundfos R&D has made it possible to take full advantage of the unique proper - ties of titanium, and to supply customers with a full range of pumps that are com - pletely unaffected by sea water and can therefore be used anywhere in a desali - nation plant - or in any other installations necessary for desalination processes.

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