



CRT TITANIUM PUMPS



CRT puts titanium to work for industry

There are many industrial pump applications involving aggressive liquids—and where stainless steel pumps can't do the job.

Titanium takes over where stainless steel gives up, as the ideal metal for use in pumps in industrial environments involving highly corrosive substances.

Corrosion means expensive down-time as well as costly, time-consuming maintenance and repairs.

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

CRT for demanding applications

Examples of industries where Grundfos CRT pumps provide operational benefits:

- Bleaching
 - Sodium hypochlorite
 - Chlorine dioxide
- Metal finishing, metal plating, PCB manufacturing
 - Copper chloride
 - Ammonium chloride
 - Ferric chloride
- Power generation plants
 - FGD (Flue Gas Desulphurization)
- Process industry
 - Oxidizing acids



Titanium for sea water and desalination

With its titanium construction, CRT is the best choice for pumping sea water. Here's why.

If you are responsible for marine, offshore, or desalination operations, you know that corrosion caused by sea water is always one of the major challenges.

Many residential, commercial, industrial, and marine operations and processes such as cooling, firefighting, washing/cleaning, and salt removal depend on a reliable water source. A huge supply of water is nearby—but sea water is extremely corrosive to pumps and other equipment.

One structural metal makes it possible to resolve corrosion issues related to sea water—titanium. Sea water has no effect whatsoever on titanium surfaces or properties. In Grundfos CRT, all parts in contact with the pumped liquid are titanium.

CRT for sea water applications

CRT is the best choice for marine environments and offshore installations such as:

- Ballast pumps
- Washing and cleaning
- Cooling
- Firefighting
- Fish farming
- Aquariums
- Water sports
- Fun parks
- Desalination



Grundfos brings you corrosion-free pumps at affordable prices

Grundfos CRT is the only pump of its kind: a titanium, corrosion-free vertical multistage centrifugal pump. All components in contact with the pumped liquid are titanium.

Titanium wins out over stainless steel as the ideal material for pumping corrosive substances. Corrosion is the number two cause of premature pump failure (next to dry-running). CRT is the best choice for pumping corrosive sea water and many chemicals.

Grundfos CRT was designed to meet the market's demand for corrosion-free pumps at competitive prices. It's part of the Grundfos CR range, the world's most efficient vertical multi-stage centrifugal pumps.

Titanium—naturally unaffected

The excellent corrosion resistance of titanium results from the formation of very stable, continuous, highly adherent and protective oxide films on metal surfaces.

Because titanium is highly reactive and has an extremely high affinity for oxygen, these beneficial surface oxide films form spontaneously and instantly when fresh metal surfaces are exposed to air and/or moisture. In fact, a damaged oxide film can generally heal itself instantaneously if traces of oxygen or water are present in the environment.

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).

Ti²²₂₆

What makes CRT so special?

Titanium offers a reliability other materials cannot match. Even a decade of full immersion in salt water will not leave a blemish on a titanium metal surface.

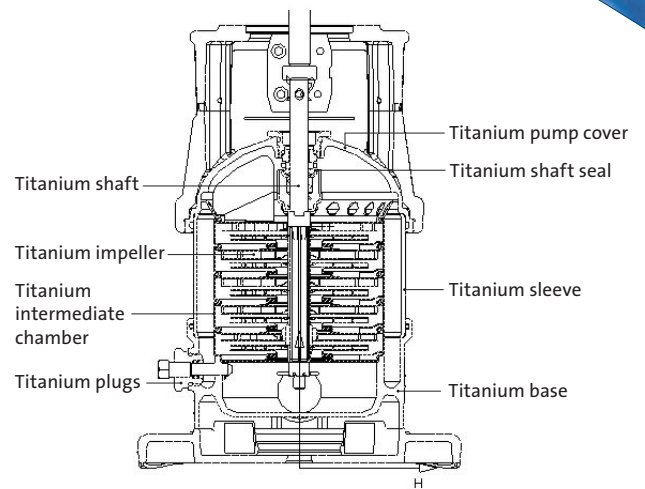


Building on the titanium advantage

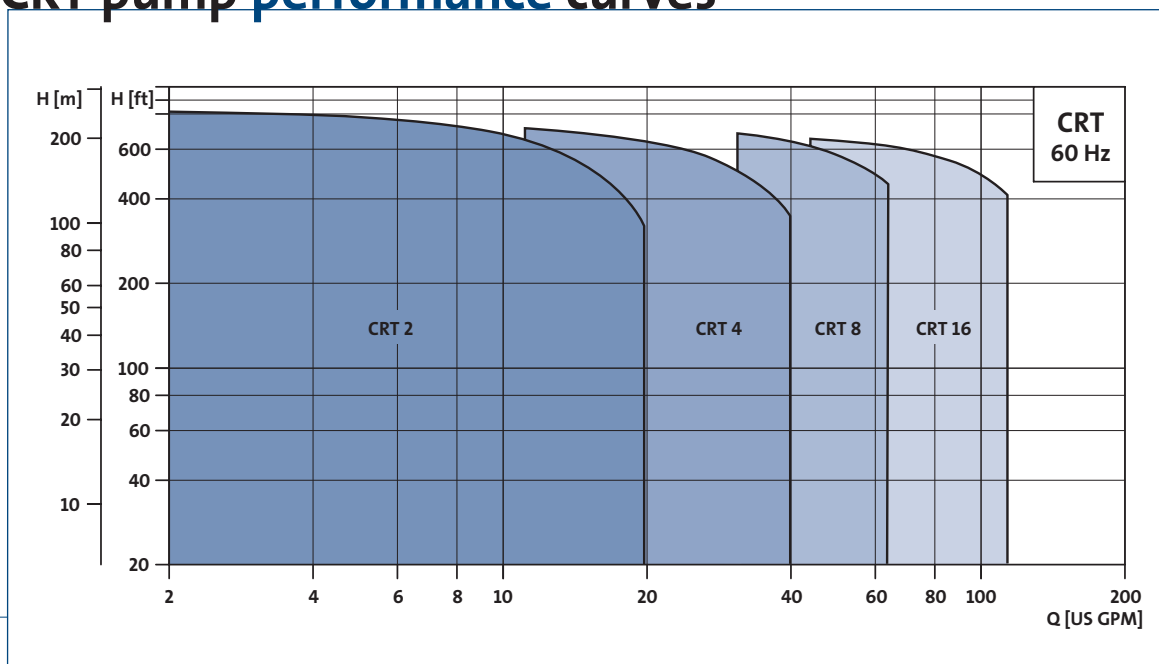
Titanium is unique among metals in being able to withstand attack by chlorides and oxidizing liquids due to a highly stable oxide film that completely protects the surface against corrosion.

This makes Grundfos CRT pumps fully resistant to solutions of the chlorites, hypochlorites, chlorates and chlorine dioxide used in the pulp and paper industry, and for disinfection purposes.

Grundfos CRT pumps are also fully resistant to oxidizing metallic chlorides, such as FeCl_3 , NiCl_2 or CuCl_2 , used in water treatment, the electronics industry, metal refining or plating.



CRT pump performance curves



Flexible solutions

The Grundfos CRT range is an integral part of a comprehensive series of pump solutions developed for use in industrial applications. Each pump type is available with a range of different specifications and accessories to meet your precise needs.

Grundfos - a world-wide supplier

Grundfos offers an efficient world-wide service network. Experienced service technicians and all necessary spare parts are available at short notice in all corners of the world.

L-CR-SL-004	11/03
PRINTED IN USA	

Subject to alterations

GRUNDFOS Pumps Corporation
17100 West 118th Terrace
Olathe, Kansas 66061
Telephone: 913 227 3400
Fax: 913 227 3500
www.grundfos.com

GRUNDFOS Canada Inc.
2941 Brighton Road
Oakville, Ontario L6H 6C9 Canada
Telephone: 905 829 9533
Fax: 905 829 9512

Bombas GRUNDFOS de Mexico S.A. de C.V.
Boulevard TLC #15
Parque Stiva Aeropuerto
Apodaca, N.L. Mexico 66600
Telephone: 52 81 8144 4000
Fax: 52 81 8144 4010

