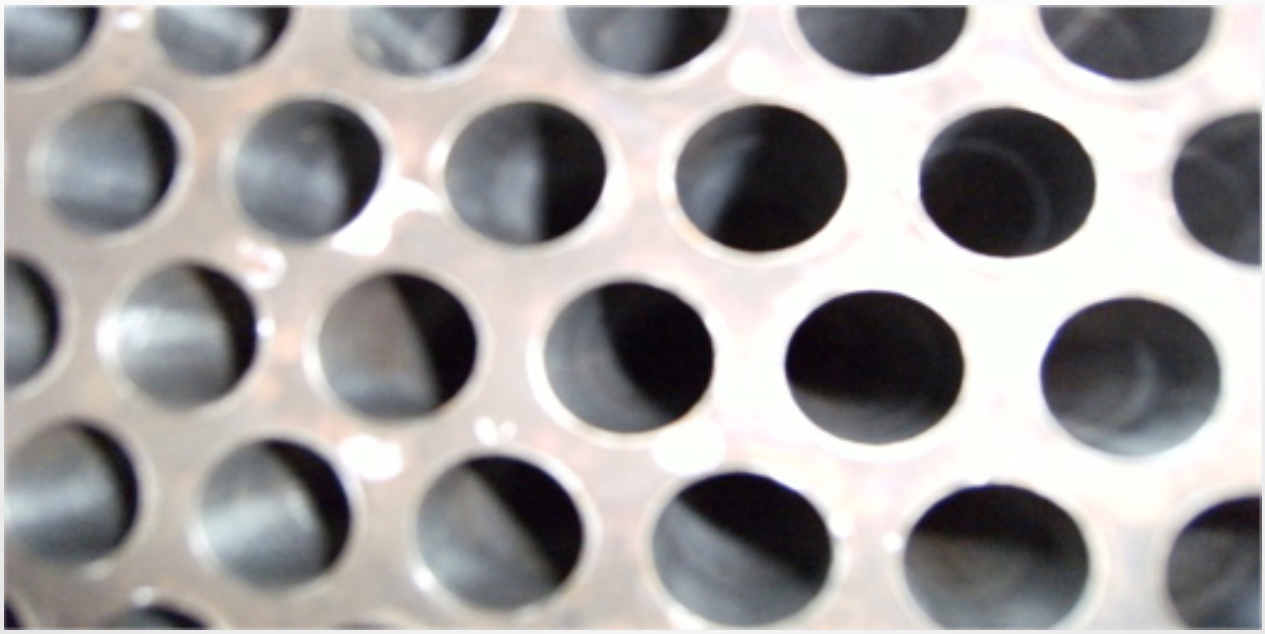
SPP HYDROTECH



Power Industry
Chemical Industry
Petrochemical Industry

Tube Cleaning Service For The Power Industry, Chemical Industry And Peter Chemical Industry

All inner tube surfaces are subject to some kind of contamination. What kind of contamination prevails is mainly determine by:

- Tube material (steel, stainless steel, titanium, copper and its alloys)
- Liquid inside the tubes (product, seawater, brackish water, freshwater)
- Operating condition

As a specialist in this field we design and manufacture tailor made cleaning tools to tackle particular problems.

Our standard portfolio consists of three different cleaning technologies:

For a fast solution we propel cleaning projectiles through the tubes.

If the time permits and for perfectly clean tubes, we use air powered cleaning machines with special rotating cleaning brushes.

Particular for the oil and gas industry we utilize CO_2 pellets with special designed blast nozzles. One big advantage of this method is, that no secondary waste is generated.
(Please see Dry Ice Blasting brochure)

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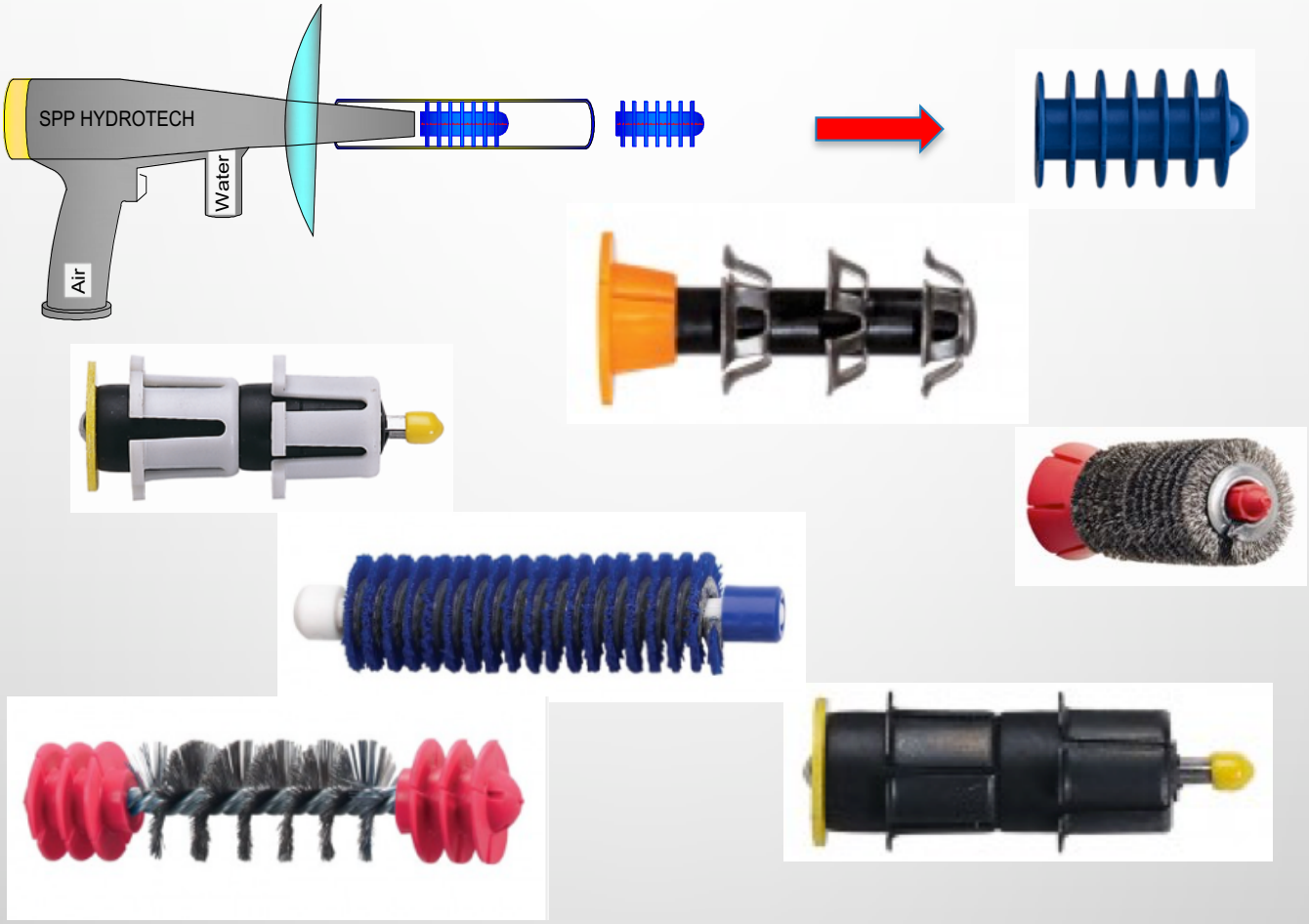
The Fast Solution

If the tube contamination consists mainly of soft or medium soft deposits, propelling cleaning projectiles through the tubes is a very fast and reliable solution.

Depending on the cleaning projectile of choice, we use air / water guns utilizing service water and service air of the plant. For harder deposits we are utilizing our water only pump system with polycarbonate scraper projectiles.



A wide range of different cleaning projectiles are readily available, designed to remove soft, medium and hard inner tube contamination. The cleaning projectiles, when handled correctly, can be re-used several times.

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The Fast Solution

Utilizing this cleaning method is a perfect solution for short shut downs. Technical cleanliness for improved heat transfer is achieved in a very short period of time.

Since the cleaning projectiles can be several times re-used, it is not necessary to match the number of cleaning projectiles with the number of condenser tubes. This leads to additional cost savings.

Due to the high traveling velocity of the cleaning projectiles through the tubes, the cleaning process is very fast, saving time and manpower.

The cleaning quality permits eddy current testing afterwards, but will not support IRIS. If IRIS testing is considered, brush cleaning is the recommended tool of choice.

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The Fast Solution

Cleaning projectiles are inserted into the condenser tubes.
When in place, those projectiles are propelled through the condenser tubes by special “guns” with an air / water mixture. The travelling time through the condenser tube is about 5 to 7 seconds. After being propelled through the condenser tubes, the re-usable projectiles are collected from the outlet water box and re-inserted into the not yet cleaned tubes.

Certain cleaning projectiles, however, require an increased flush water pressure and quantity. In this case, we are utilizing our booster pumps, while the process actually remains the same. Our booster pumps can handle two propelling guns at the same time.

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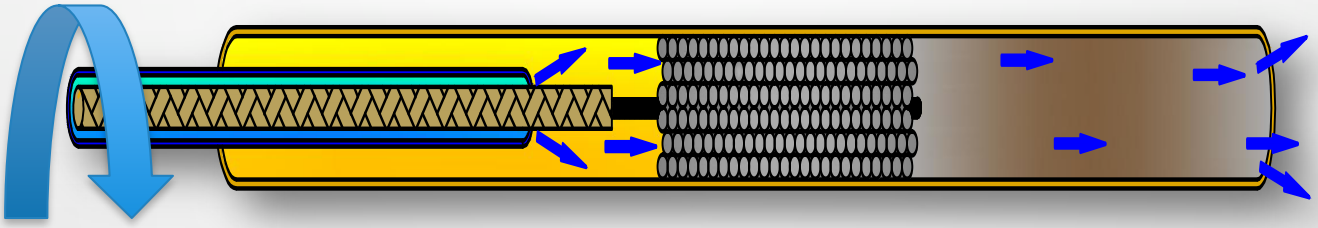
The Solution For Perfectly Clean Tubes

Utilizing rotating cleaning tools connected to air powered cleaning machines.

While the flexible shaft, attached to an air powered cleaning machine, rotates at a pre-set speed, the cleaning tool is slowly pushed through the condenser tube. When reaching the end of the condenser tube, the cleaning brush is manually retracted.

During the process, water is pressed through the gap between the flexible shaft core and the blue colored stationary protective hose. The purpose of pressing water through the protective hose is twofold: First, it cools the flexible shaft core and second it flushes out the removed contamination.



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Example Of Cleaning Tools

A wide range of different cleaning tools caters for soft deposits, medium hard deposits or hard deposits.

The above shown cleaning tools just represent a selection of standard tools. We also develop a range of purpose made tools to cater for particular contamination problems.

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The Results

Titanium tubes in seawater

The left photo above shows the condenser prior to cleaning, while the other two photos are made after cleaning.

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The Results

Copper alloy tubes in seawater

Copper alloy tubes in seawater – cleaning in progress

Prior to cleaning and after.

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The Results

CuZn20Al tubes in seawater

Before and after cleaning

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The Reliable Partner For Tube Cleaning

With our technology we clean tubes from a minimum inner diameter of 7 mm up to a maximum inner diameter of 40 mm. The cleaning length is limited to 25 meters.

We also drill totally clogged tubes open, returning them to operation.

With special tools we clean U-tube heat exchanger through the U – bend.

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