

SERVICE INSTRUCTION SHEET

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TITLE: ATLAS® SOCK WASH & CHEMICAL CLEAN

Preamble

Different Owners and Operators will their own thoughts on the best ways to manage their equipment. "Asset Management" is a Client's choice.

Many projects favour "PREDICATIVE MAINTENANCE", whereby Atlas® filter socks and O Rings are routinely replaced according to their "predicted" service life. This service life varies, according to the application, the management practices in place, and the pool loading.

Other projects elect to operate on a "RUN-TO FAILURE" basis, whereby the emergence of "tell-tale" signs becomes the "trigger" to replace all filter socks and O rings. These "tell-tale" signs can be as simple as abnormal gauge readings, reduced filter-run time, low flow, or media blow-back etc. The benefit of "Run-To-Failure" means the need to replace filter socks and O rings is beyond doubt. A "Run-to-Failure" policy does have benefits, but it lacks the same level of convenience, as a more orderly policy, using Predicative Maintenance.

PREDICATIVE & RUN-TO-FAILURE maintenance policies have marked similarities. These maintenance policies differ in terms of what dictates the need for a sock & O Ring change.

Other Owners & Operators prefer "Preventative Maintenance", whereby their filters are periodically taken off-line for routine inspections. Yearly maintenance, mid-term, or every other year, is not mandatory; it is elective. The purpose of *preventative maintenance* is to evaluate the current day condition and to validate the conditions, which can impact on an optimum service life.

Sock Wash/Hose-Off

The concept of "Preventative Maintenance" is reliant upon periodic inspections. These inspections provide an ideal opportunity to flush-out the filter vessel and to "hose-off" the filter socks. Inspecting and validating the integrity of the filter socks is difficult (and rather impractical) if the filter socks remain dirty.

Instruction Sheet 208 outlines the procedures to remove individual candle assemblies from the filter vessel. Proceed to clean all cloth-covered filter candles using a strong (high-pressure) blast of clean water. Angle the spray to remove (blast-off) any residual filter aid and collected dirt. It is best to hose socks down shortly after their removal, before any residue has time to dry-out and form a crust. Dirt removal is easier and more effective, if the fabric and its collected matter remain wet and or moist.

When completing a "sock wash" the recommended practice to replace all O rings at the same time.

"Hosing-off" is a comparatively simple task, which will commonly restore the efficiency of the existing socks to a level, whereby this may be the only action required. If the existing filter socks have seemingly had a "hard life" or have been subject to any possible misuse, or abuse, a high pressure hose-off will often highlight the potential issue and provide a justification to proceed with "chemical cleaning".

Chemical Cleaning

Chemical cleaning Atlas® filter socks is "need-based" and elective; it is not an essential prerequisite for the operation of an Atlas® filter. The type of contamination will dictate the need for chemical cleaning, as well as the most appropriate chemical to use.

If the issue is due to **high mineral** content, you remove these deposits by chemically soaking the filter

ATLAS® - ALL SERIES (PCT, NPC, & CPC)

REGENERATIVE MEDIA FILTER (ULTRA-FINE FILTRATION)

socks in a solution of one part muriatic acid to five parts water. Hose-off the socks first, then soak for up to 1-hr. Rinse the acid-cleaned socks in clean water before re-use.

If the filter fabric seems stiffer than normal, this will commonly indicate the filter socks are “plugged” or “limed-up” by a high mineral content. The mineral content within different pools will vary according to the type & quality of the source water, the use, and the management of pool chemicals, and evaporation.

The presence of **body oils and fats** is a more likely problem. Given the “exchange rate” from the human body, increases according to water temperature, the issue with body oils and fat becomes more apparent with warm/hot water pools and spas.

Whilst different filter aids have different absorption capabilities, all filter aids will absorb body oils and fats. Over time, this absorption can corrupt a filter aid, making it sticky, less permeable, and more tenacious. In many cases, the sock washing/hose-off procedure outlined above will remove fat-saturated filter aid to sufficiently restore and rejuvenate the Atlas® filter socks.

In other cases, after a “hose-off”, Atlas® filter socks can be soaked and washed using a chemical cleaner.

The use of Trisodium Phosphate (TSP) will provide excellent service. This cleaner is readily available as a dry powder (e.g. Tricleanium-Ultra), preferably mixed with warm water according instructions provided on the supply pack. The alternative to TSP is Polyphosphate (a cleaner commonly used by automatic dishwashers). Phosphate cleaners are strongly alkaline.

Follow all instructions and advice contained within relevant MSDS.



WARNING # 1:

- Handle all Phosphate cleaners with care - wear protective clothing, gloves and eye protection.
- Check local regulations prior to using TSP and or any other phosphate-based cleaner.
- Limit the use of Phosphate cleaners to the minimum amount necessary for the task.
- The use of Phosphates is the basis of ecological and environmental concerns, whereby it can trigger the overgrowth of algae and deplete oxygen levels within natural waterways.
- Disposal of cleaning phosphate may be subject to specific requirements and restrictions. Do not discard any used phosphate cleaning solution to a “stormwater” drain.
- Do not use any phosphate-based cleaning solution in and around the pool.

Proprietary cleaners (like Pro Series Filter Cleaner™, LoChlor Cleaner & Degreaser, and Pool Solutions Natural Filter Cleaner & Degreaser) are often preferred because they are phosphate-free and or biodegradable. This substantially simplifies disposal issues. Make sure to use cleaning chemicals in strict accordance with published MSDS and the instructions printed on the supply container.

The extent of body oils and fats will vary according to bather load and water temperature. The impact of high body oils and fats will also vary, according to the amount filter area and the type of filter aid that is used. A good system design will provide an active filter area, which is commensurate with the pools loading. In other cases (where minimal filter area is available), you can expect a higher incidence of service.

Clean-In-Place Chemical Cleaning Option

With some filter design, Clean-In-Place (CIP) chemical cleaning might be the only practical option.

Atlas® filters are different. Firstly, they have substantially fewer filter candles. These filter candles are also generously spaced, whereby the chance of the filter cake forming a “bridge” (between adjacent candles) is greatly reduced.

With replaceable filter socks and simple dis-assembly, the Clean-in-Place method has not proved particularly relevant to Atlas® filters. In part, this is because the CIP method occurs within a “closed-vessel” and as such, it is largely inaccessible and difficult to validate visually.

With an Atlas® filter, if chemical cleaning is warranted, Service Providers have widely reported that it is quicker and far more certain to physically strip the filter to provide whatever service that may be required, albeit a sock replacement, hose-down, or a chemical wash.



NOTE # 1: No matter of the method, the decision to “chemically-clean” filter socks is a “value judgement”, which assesses labour costs versus the likely benefit. In many cases, a complete sock replacement (particularly for smaller filters) remains the most certain and cost effective option. If servicing a filter “mid-term” (half-way between the sock service-life) a simple “hose-down” will commonly provide very adequate service. The need to “hose-off” or “chemically-clean” Atlas® filter socks is more commonly for those projects, operating under a Preventative Maintenance policy.



WARNING # 2:

- Soak the filter sock only, NOT the candle core.
- Take extreme care when using any acid solution. Protective clothing, suitable gloves, & eye protection are all mandatory.
- Never add water to acid.
- Never mix chlorine and acid.
- Always neutralize the acid cleaning solution before disposal.

For an accredited service provider, the tasks outlined within this Procedure are predictable and is unlikely to create any significant disruption to an existing usage. In many cases, multiple filters are in service, whereby having one filter module off-line for service, poses minimal risk and inconvenience.

Refer to Instruction Document # 208 for details on fitting “cleaned” filter socks and filter re-assembly.



NOTE # 2: The need to replace (or to wash/chemically-clean) filter socks will vary according to the application, the skill, and the dedication of the Plant Operator.

Based on extensive case history (of 19-yrs.) the typical service life that you can expect with current Atlas® filter socks are as follows:-

- 5 to 7-yrs. (for swimming pools at up to 27°C);
- 2 to 3-yrs. for Leisure Pools (up to 32°C); and
- 1 to 2 yrs. (for therapy/spa pools up to say 38°C).

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