Lacron Filter Service Information

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A GUIDE TO CHANGING FILTER MEDIA IN LACRON FILTERS

Introduction

We recommend that any servicing of a Lacron filter, (including media changes or the replacement of parts) should be undertaken by a professional pool company, which is an Authorised Lacron Dealer. These pool companies will have the correct equipment and genuine replacement parts to carry out any work required with the minimum amount of downtime. Any service work carried out by the pool owner/caretaker will be done so at their own risk.

Health & Safety

Used filter media may contain contaminates including: chemical traces and bacteria which could be harmful if in direct contact with skin, or if the fumes are inhaled. We therefore recommend that adequate clothing such as rubber gloves and respiratory masks are worn when changing filter sand. Proper considerations should also be given regarding the disposal of used filter media. We suggest that used filter media should be packaged into biodegradable sacks and safely dispatched to a suitable waste disposal site.

Q1 HOW OFTEN SHOULD FILTER MEDIA BE CHANGED?
(This is not applicable to Bead Filters – Please see owners information enclosed with your Bead Filter)

This is dependant on the type of installation and how well the pool water quality has been maintained. For example; if the pool water chemistry has not been regularly monitored, the P.H. balance may have caused calcium to build up in the system, which can make the media solidify or if the pool has been neglected for lengthy periods with inadequate backwashing the media condition will deteriorate more rapidly.

Other aspects of the pool installation can also affect the frequency of media changes, such as; pools with a higher pollution level (particularly Koi carp ponds), or pools and spas which run at temperatures above 30°c, which often attract a higher level of oily substances. These may make the media clump together forming what we call 'mud balls'. The following table is a guide to 'backwash & media change frequency' for various installations that are typical today.

CLASSIFICATION OF POOL	BACKWASH FREQUENCY	MEDIA CHANGE FREQUENCY
1. Koi Carp Ponds (Not applicable to Bead Filters) …….	3 – 10 days……	6 – 18 months
2. Public Paddling Pools (highly used by children)……	Daily……	6 – 18 months
3. Commercial Spa's……..	Daily……	12 – 24 months
4. Hydrotherapy Pools……	Daily……	12 – 24 months
5. Animal Training Pools……	1 – 3 days……...	12 – 24 months
6. Residential Spa's……	5 – 10 days……	24 – 36 months
7. School – Trainer Pools……..	5 – 7 days……	24 – 36 months
8. Hotels/sport Club Pools……	3 – 7 days……	24 – 36 months
9. Large Commercial Swimming Pools……	Daily……	3 – 5 years
10. Residential Swimming Pools (outdoor)……	7 – 10 days……	5 – 10 years
11. Residential Swimming Pools (indoor)……..	10 – 14 days……	5 – 7 years

Q2 WHAT ARE THE SIGNS THAT THE MEDIA NEEDS CHANGING?

It is vital that all filter systems be fitted with a pressure gauge (normally installed on the main valve), which will indicate the system running pressure. When the filter media is new and immediately after backwashing, the system running pressure should be noted. During normal use, this pressure will rise as dirt becomes trapped in the media bed. Generally, an increase of 25 – 30% in the normal running pressure will indicate that backwashing is required. Prior to backwashing it may be noticeable that the water flow will have slowed down due to the resistance caused by the trapped dirt in the media bed. The precise frequency of backwashing is determined by the type of installation and its usage. (See above table).

When the media is coming to the end of its effective life the following points may be noticed.

2.1 The normal (clean) running pressure may have increased by 10% or more.

2.2 The frequency of backwashing my need to be stepped up.

2.3 Water flow may appear to be less vigorous than when the filter media was new.
2.4 The pool water condition may be difficult to maintain consistently, causing water clarity problems.

Q3 WHAT TYPE OF FILTER MEDIA SHOULD BE USED?

The media that can be used in your filter is either **Lacronite** or 16/30 (0.5mm to 1.4 mm) nominal size Sand.

Zeolite

Simply put, **Zeolite** is a superior grade of purposely chosen high grade volcanic material for use in pressure vessels. Specifically selected for use as a filter media for swimming pools and spas, Lacronite offers many benefits over traditional materials such as sand and diatomaceous earth for residential and commercial pool builders, managers and users.

Some of the many advantages of Lacronite are; – superior water clarity – remarkable dirt retention properties – far better water quality and bather comfort – eliminates dry skin, dry hair and red eyes – pushes chemical costs down – reduces backwashing frequency – substantially saves on water make up and associated heating costs – improves pool hall environment – reduces chemical odour – lower water filter pressure and less pump wear – easy to install – lasts for years.

Sand

The sand in your filter is specially graded silica sand, suitable for swimming pool or spa use. **NEVER** use builder's sand/sharp sand or ballast, as the filter is not compatible with these materials. The grade of filter sand normally used is: - **(0.5mm to 1.4mm) – SILCA SAND.**

General Media Notes:

For residential pool filters it is typical that the media bed is of a uniform grade throughout. For commercial application (particularly deep bed filters) it is recommended that a base layer of 6mm dia. Pea gravel is used to cover the lateral system. The depth of this base layer should be between 50 – 200mm above the slotted lateral pipes. The use of graded media is to assist with water distribution during the backwash cycle.

NOTE: The weight if Lacronite/sand media will need to be reduced to compensate when using gravel base layers. **CONSULT YOUR SUPPLIER!**

Q4 HOW MUCH MEDIA DO YOU REQUIRE?

First of all you need to establish what size your filter is. From the factory, all filters are supplied with a unique serial number label, which would start with a prefix number as follows; (450)16" – (457)18" – (610)24" – (760)30" – (900)36" – (1100)42" etc. These prefixes refer to the diameter size of the unit: - (mm) inches.

The label will also state the amount of media required for a media change. However, on older filters this label may have worn away. If this is the case you will need to accurately measure the filter diameter and height to establish which type of filter you have: The table below lists the filter size and their respective sand content.

***Denotes: Often used for residential pools.**

DIAMETER	TOP MOUNT FILTERS	HEIGHT	MEDIA CONTENT
*(400)-16"……..	Combi/Compact Filter……..	500mm……	50 KGs
*(457)-18"……..	Combi/Compact Filter……..	575mm……	75 KGs
*(620)-24"……..	Combi/Compact Filter……..	700mm……..	125 KGs
*(760)-30"……..	Combi/Compact Filter……..	775mm……..	200 KGs

DIAMETER	SMALL-MEDIUM SIDE MOUNT FILTERS	HEIGHT	MEDIA CONTENT
*(450)-16"…….	LSC/LSC/LHP Side Mount Filter.....	575mm…….	50 KGs
*(460)-18" …….	LSC/LSC/LHP Side Mount Filter……	.685mm……	75 KGs
*(610)-24" …….	LSC/LSC/LHP Side Mount Filter……	760mm……	125 KGs
*(760)-30" …….	LSC/LSC/LHP Side Mount Filter……	780mm……	200 KGs
(900)-36" …….	LSC/LSC/LHP Side Mount Filter……	945mm…… .	375 KGs
(1100)-42" …….	LSC/LSC/LHP Side Mount Filter……	965mm… …	550 KGs
(1200)-48" …….	LSC/LSC/LHP Side Mount Filter……	1315mm……	850 KGs

DIAMETER	COMMERICAL-HORIZONTAL FILTERS	HEIGHT	MEDIA CONTENT
(760)-30"……..	HRZ (horizontal Filter)…..……..	1115mm……	750 KGs
(900)-36"……..	HRZ (horizontal Filter)…..……	1225mm……	950 KGs
(1100)-42"……..	HRZ (horizontal Filter)…..……	1335mm……..	1200 KGs
(1200)-48"……..	HRZ (horizontal Filter)…..……..	1450mm……..…	1600 KGs

DIAMETER	LARGE COMMERCIAL FILTERS	HEIGHT	MEDIA CONTENT
(1400)-55"……..	LC – Hi Flow……..…….....	1510mm…….	1900 KGs
(1600)-63"……..	LC – Hi Flow……..…….....	1725mm…….	2600 KGs
(1800)-72"……..	LC – Hi Flow……..…….....	1860mm…….	3500 KGs
(2000)-80"……..	LC – Hi Flow……..…….....	2100mm…….	4500 KGs

DIAMETER	DBF-FINAFLOW COMMERCIAL FILTERS	HEIGHT	MEDIA CONTENT
(450)-18"……..	Deep Bed Commercial..……....	1625mm…….	300 KGs
(610)-24"……..	Deep Bed Commercial..……....	1775mm…….	575 KGs
(760)-30"……..	Deep Bed Commercial..……....	1910mm…….	1050 KGs
(1100)-42"……	Deep Bed Commercial..……....	2010mm…….	1825 KGs

DIAMETER	DBK-SUREFLOW COMMERCIAL FILTERS	HEIGHT	SAND CONTENT
(610)-24"……..	Deep Bed/Plate & Hatch…….….....	2255mm…… ….	725 KGs
(760)-30"……..	Deep Bed/Plate & Hatch…….….....	2275mm…… … …	925 KGs
(1100)-42"……	Deep Bed/Plate & Hatch…….….....	2425mm……..…	2100 KGs
(1200)-48"……	Deep Bed/Plate & Hatch…….….....	2550mm…….	2300 KGs

Q5 WHERE TO BUY FILTER MEDIA?

Either contact the company who built your pool or your current supplier of chemicals and other pool equipment. If you are a new owner of a pool, perhaps inheriting the pool by purchasing a new house etc., we suggest that you refer to your local yellow pages under the **'Swimming Pool'** section and contact the closest pool equipment supplier.

Before you contact your pool equipment supplier it is important that you know the size of your filter and its respective media content. You should also consider (depending on the amount or weight of media you require) whether to collect it yourself or have them deliver it to you.

For residential and light commercial pools the filter media is generally supplied in either 25 kg or 50 kg sacks. NOTE: 25 kg sacks are much easier to handle! For large commercial applications, filter media can be delivered in bulk.

Q6 **SAND CHANGE PROCEDURE**

Having received the correct amount of filter media, the following procedure should be followed:-

6.1 Make sure the pool water is in good condition and at an adequate level. Ensure skimmer and pump baskets are free from debris. Backwash filter for 3 minutes then rinse for 20 seconds – Repeat procedure to ensure the old media is as clean as possible, before you attempt removal.

6.2 Set **ALL** valves to closed position. Isolate from the mains supply the circulation pump and all other on line electrical/gas appliance.

6.3 Remove filter drain plug cap, situated just above the filter base level. NOTE: Once the drain plug cap is removed, the water contained in the filter will be released. Ensure that any exiting water will not damage surrounding equipment or decor. Use suitable drainage trays or hoses as required.

6.4 For filters fitted with the valve at the side (side mount) remove the top lid, this will speed up the out flowing water from the drain plug.

6.5 Threaded lids can sometimes be difficult to unscrew particularly if they have not been removed for some time. If this is so, we suggest that you use a purpose made 'Lacron' lid tool. Alternatively, it is possible to make your own tool from two 750mm lengths of 50 x 50 timber, each drilled with a 10mm diameter hole 70mm from the end. Loosely join the two timber pieces using a 10mm nut and bolt to form an unequal cross. This can then be fitted over the filter lid and used to push against the fins to give far greater leverage**. Avoid hammering the lid as this will cause damage.**

6.6 Having removed the lid of your filter, you will need to lift off the air bleed cap and rose distributor then remove distributor pipework. This can be disconnected by unscrewing the stainless steel cross head screw, which is situated inside the filter at 45° on the edge of the top bulkhead. Once the screw is removed the header pipe can be eased out of the bulkhead and carefully slipped off of the black – airbleed tube.

6.7 For filters fitted with a valve at the top, the valve must be removed to gain access to the interior of the filter. Top mount filters have a central collector pipe unlike the side mount type.

6.8 Provided the media is free running a commercial type wet and dry vacuum cleaner can be used to suck out the old media. **NOTE:** You may need to use water from a hose pipe to help fluidise the media when vacuuming.

Alternatively, it may be more appropriate to simply bail out the media using a plastic bowl approximately of 150mm diameter or smaller.

6.9 Whatever method of media removal chosen, particular care should be taken as you excavate around the lower underdrain pipework. This pipework can become brittle during years of service and any damage that may occur could result in sand being passed back to the pool once the filter is re-commissioned. It may help to wash around the underdrain pipework with a garden hose to assist with removing **ALL** the old media.

6.10 Once the filter is completely empty of old media, it is advisable to fill the filter with water by about one third of the tank depth. This water will break the fall of the fresh media, reducing its impact on the underdrain pipework. Cover the end of the airbleed tube with adhesive tape or similar to prevent sand blocking the pipe bore.

6.11 Make sure that the **NEW** fresh media is dry and free running. Open the sacks carefully to avoid wastage and to assist in making the flow more controllable. Pour the media in slowly, and continue until half of the required amount is in place. At which point you should push the media around inside the filter making the surface roughly level.

6.12 Pour the remainder of the media in, but keep a careful check on the media height level. On most residential filters, the correct height is about 30 –50mm above the centre of the filter. This level may be higher on commercial filters – refer to filter technical specifications.

NEVER FILL THE FILTER COMPLETELY WITH MEDIA!

6.13 Once the correct amount of media is in the filter, again push the surface layer around until roughly level. Then clean the lid area, paying particular attention to the threads which must be completely free of any media or dirt etc.

6.14 Remove the tape from the airbleed tube and clean and refit the distributor pipework, rose and airbleed cap. Thoroughly clean the lid and 'o' ring. Check to ensure that all dirt and grit is removed by screwing the lid into the filter. If dirt is still present you will hear a grating sound.

6.15 Once you are sure that the lid and threads are totally clean you can then apply a liberal amount of Vaseline to the lid threads and 'o' ring. Then refit the lid **hand tight only!**

6.16 Open appropriate valves and reset to BACKWASH. Re-activate the main circulating pump. BACKWASH for at least 3 minutes. You will notice that the backwash water contains a colour stain – this is normal but must be completely clear before filtering can commence. Stop the system then rinse for 1 minute. Stop the system and manually re-tighten the lid by another one-third turn. Then do a further backwash and rinse until the out flowing water is completely clean.

6.17 Re-set the valve to filter position, switch the pump on and observe the water flowing back to the pool, which should be noticeably, more vigorous. Once you are satisfied that the filter is running correctly you should re-set all other on line equipment, re-setting or adjusting timers etc., as required.