

Filter system filtraliQ:LA

Intended use

The filter system filtraliQ:LA is designed for treating domestic and process water in companies and small businesses.

Depending on the filter material, the filter system has the following function:

- As a multi-layer filter, the filter system is used to reduce undissolved contaminants in water.

Procedure

Filtration

The raw water flows through the raw water inlet of the front piping into the filter tank and then from the top to the bottom through the filter material.

The filtrate is fed via the lower distribution system through the pure water outlet to the on-site pipe network.

The filter performance can be adjusted using a flow meter with an adjustment valve installed in the front piping.

Backwash

The filter system must be backwashed if there is an accumulation of dirt particles and a pressure drop of approx. 0.3 bar. During the backwash process, the filter material is flushed from bottom to top and loosened. The impurities retained during the filtration process are washed out via the drain outlet in the front piping. In addition, an optional scavenging air blower can be used to improve the flushing result by dosing air in the counter-current. The filter system must be backwashed at least once per week.

First filtrate

By automatically switching the pneumatic fittings, a first filtrate discharge follows after each backwash. The filter material is flushed from top to bottom. The first filtrate is discharged to the drain. The filter system is then ready for operation again.

Control unit (optional)

The automatic backwashing of the filter system is controlled by a differential pressure switch. The times for the individual process steps can be freely set in the control

unit. The air-operated valves are operated by means of pilot valves.

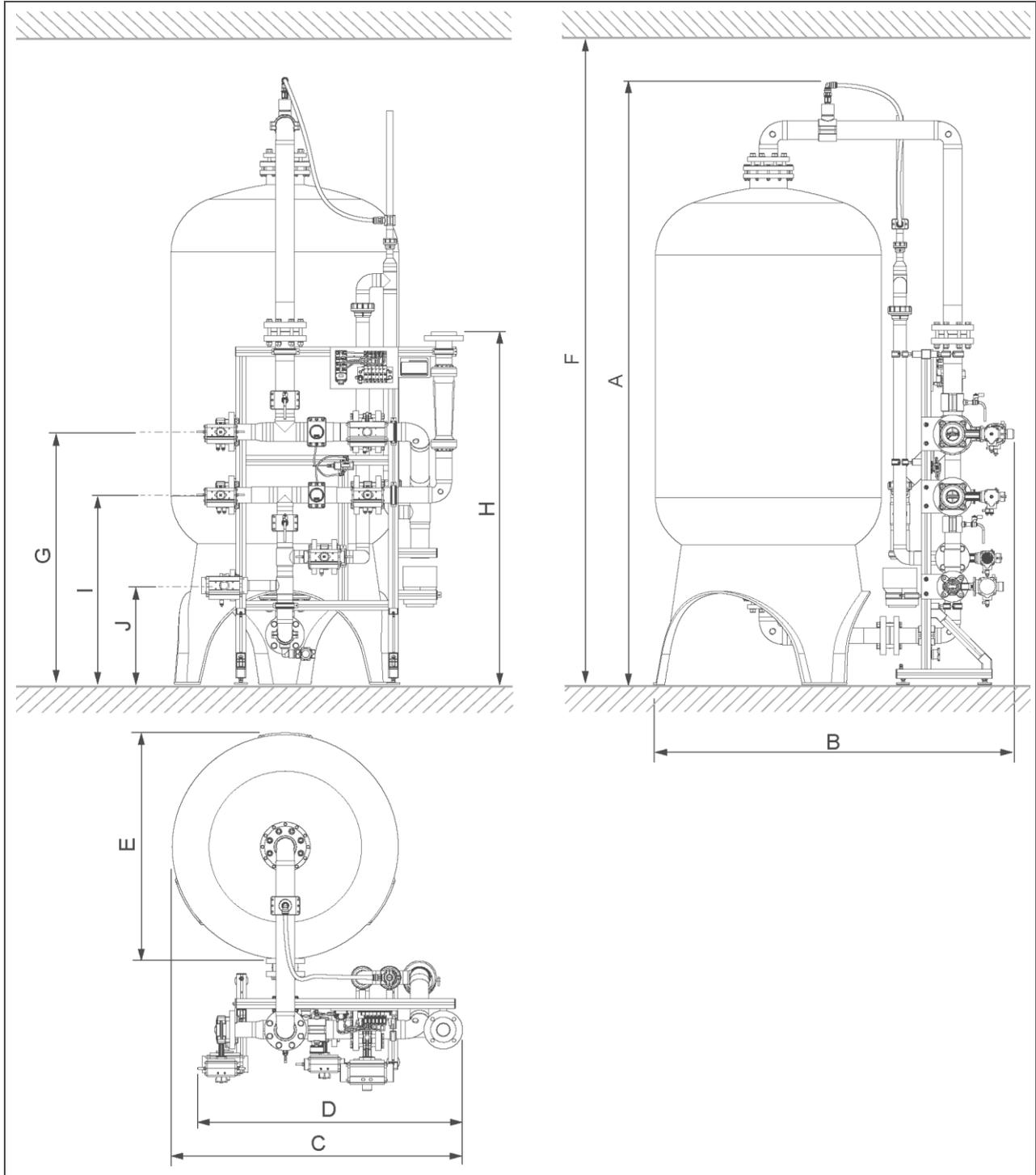
Set-up

- Front piping installed on an anodised aluminium rack
- Filter tank made of pressure-resistant plastic with aeration/ventilation valve and fixtures for water flow control and retention of filter material
- Flanged pneumatic fittings for water flow control in the filter system
- Sampling valves made of stainless steel for raw water and filtrate.
- Pressure gauge for raw water and filtrate pressure
- Differential pressure measurement raw water/filtrate
- Variable area flow meter in filtrate to visually check the flow meter
- Electric pilot valves to activate the pneumatic fittings

Scope of supply

- Filter tank made of GRP, including aeration and ventilation and internal water distribution system
- Front piping with pneumatic fittings and pilot valves on an anodised aluminium frame

Technical specifications I



Dimensions and weights			5600	10000	16000	24000	30000	40000
A	System height	mm	2700	2800	2800	2900	3450	3900
B	System depth	mm	1300	1500	1700	1900	2200	2950
C	System width	mm	1350	1400	1500	1650	1750	1900
D	Front piping width	mm	1200	1250	1300	1500	1600	1750
E	Ø Filter tank	mm	610	816	1074	1226	1429	1623
F	Room/installation height	mm	3000	3050	3050	3100	3650	4100
G	Raw water connection height	mm	1150	1150	1200	1300	1500	1550
H	Filtrate connection height	mm	1650	1620	1675	1760	1950	2080
I	Flushing water pump connection height	mm	850	850	900	950	975	1025
Y	Scavenging air connection height	mm	490	420	470	470	500	550
Empty weight		kg	~ 170	~ 210	~ 300	~ 490	~ 590	~ 630
Operating weight, approx.		kg	761	1243	1365	3216	5650	8249

Connection data		5600	10000	16000	24000	30000	40000
Nominal connection diameter of raw water		DN 32	DN 40	DN 65	DN 65	DN 80	DN 100
Nominal connection diameter filtrate		DN 32	DN 40	DN 65	DN 65	DN 80	DN 100
Nominal connection diameter flushing water		DN 32	DN 50	DN 50	DN 80	DN 100	DN 100
Nominal connection diameter waste water		DN 40	DN 50	DN 80	DN 100	DN 125	DN 125
Nominal connection diameter scavenging air		DN 25	DN 25	DN 40	DN 40	DN 50	DN 65
Drain connection		DN 100	DN 100	DN 125	DN 150	DN 200	DN 200
Mains connection		V~/Hz	230/50				
Phases			3P/N/PE				
Plant operation (safety extra-low voltage)		VDC	24				
Connected load		VA	10				
Protection/protection class			IP54/ ⚡				

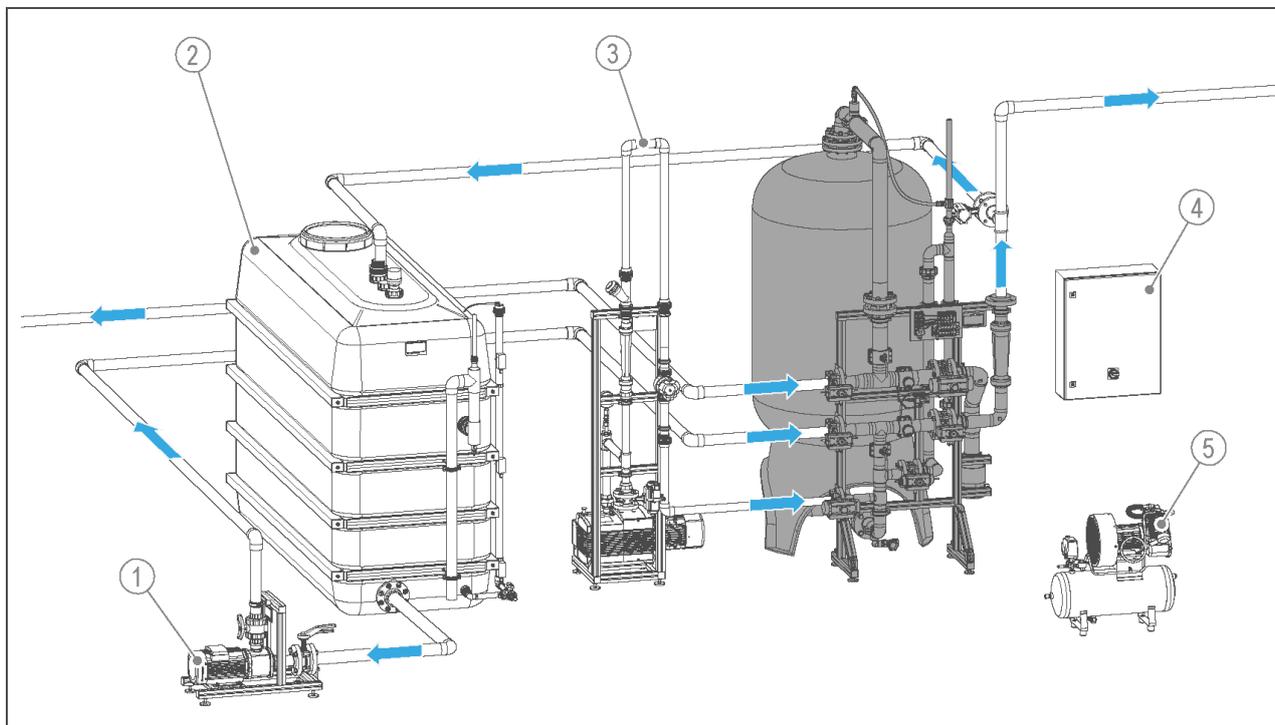
Performance data		5600	10000	16000	24000	30000	40000
Nominal flow	m³/h	≤ 5.6	≤ 10.0	≤ 16.0	≤ 24.0	≤ 30.0	≤ 40.0
Backwash capacity	m³/h	8.4	15.0	24.0	36.0	48.0	60.0
Nominal pressure		PN 10					
Operating pressure		bar 2.5 – 8.0					
Backwash time (without air backwash)		min 10	10	10	10	10	6

General		5600	10000	16000	24000	30000	40000
Water temperature	°C	5 – 35					
Ambient temperature	°C	5 – 40					
Humidity (non-condensing)	%	≤ 75					
Order no.		246 500	246 510	246 520	246 530	246 540	246 550



Nominal flow rates and backwashing data change when additional air support is provided and with the design as an activated carbon filter.

Installation example



Item	Designation	Item	Designation
1	Flushing water pump	2	Flushing water tank
3	Scavenging air blower	4	Electrical switch cabinet
5	Compressor for pneumatic valves		

Requirements for the installation site

Obey the local installation directives, general guidelines and technical specifications.

- Protection from frost, severe heat exposure and direct sunlight
- Protection from chemicals, dyes, solvents and their vapours
- Ambient temperature and radiation temperature in the immediate vicinity
 - ≤ 25 °C for applications in the drinking water sector
 - ≤ 40 °C for purely technical applications
- Protection from heat sources (e.g. heating systems, boilers and hot water pipes)
- Access for maintenance work (take required space into consideration)

- Sufficiently illuminated as well as aerated and ventilated
- Flat, vertical wall surface with sufficient load-bearing capacity to withstand the operating weight of the product.
- Pipe with sufficient load-bearing capacity to support the operating weight of the product
- Horizontal installation surface with sufficient load-bearing capacity to support the operating weight of the product

Water installation

- Floor drain suitable for the product size
- Drain connection (dimensioning according to Technical specifications)
- Euro system separator upstream of the product

- Shut-off valves and possibility of sampling upstream and downstream of the product

Electrical installation

- On-site power outlet 3/N/PE, 50Hz, 400/230V

Accessories

Scavenging air blower

For top flushing result by adding additional air during backwash

(Only with multi-layer filters)

System size	Order no.:
filtraliQ:LA5600	246 505
filtraliQ:LA10000	246 515
filtraliQ:LA16000	246 525
filtraliQ:LA24000	246 535
filtraliQ:LA30000	246 545
filtraliQ:LA40000	246 555

Flushing water pump

To improve the flushing result in case of low primary pressure, including power unit in switch cabinet, flow meter and adjusting valve

System size	Order no.:
filtraliQ:LA5600	246 506
filtraliQ:LA10000	246 516
filtraliQ:LA16000	246 526
filtraliQ:LA24000	246 536
filtraliQ:LA30000	246 546
filtraliQ:LA40000	246 556

Compressor for pneumatic valves Order no. 246 503

For the oil-free generation of compressed air for the pneumatic fittings

Group of fittings for compressor Order no. 246 504

Non-return valve, 3/2-way valve for maintenance purposes, condensate trap with pressure control, pressure gauge and pressure monitoring

Electrical switch cabinet

Electrical switch cabinet with control electronics and display for fully automatic control of the filter system as well as an indication of the operating state

Electrical switch cabinet for 1 filter system Order no.: 246 560

Electrical switch cabinet for 2 filter systems Order no.: 246 565

Electrical switch cabinet for 4 filter systems Order no.: 246 570

Consumables

Multi-layer filter filling

For the reduction of undissolved contaminants

System size	Order no.:
filtraliQ:LA5600	246 501
filtraliQ:LA10000	246 511
filtraliQ:LA16000	246 521
filtraliQ:LA24000	246 531
filtraliQ:LA30000	246 541
filtraliQ:LA40000	246 551

Filter filling for activated carbon filter

For fining, odour improvement and chlorine reduction

Note: With the design as an activated carbon filter, nominal flows and backwash values change.

System size	Order no.:
filtraliQ:LA5600	246 502
filtraliQ:LA10000	246 512
filtraliQ:LA16000	246 522
filtraliQ:LA24000	246 532
filtraliQ:LA30000	246 542
filtraliQ:LA40000	246 552

Water test kit for chlorine and pH value Order no.: 170 128

Measuring range 0.1 – 2.0 mg/l and 6.9 – 8.2
(150 analyses)

Water test kit for chlorine Order no.: 170 138

Measuring range 10 – 40 mg/l and 40 – 160 mg/l (20 analyses)

Contact

Grünbeck AG
Josef-Grünbeck-Str. 1
89420 Hoehchstaedt, Germany

☎ +49 9074 41-0

☎ +49 9074 41-100

✉ info@gruenbeck.com
www.gruenbeck.com

