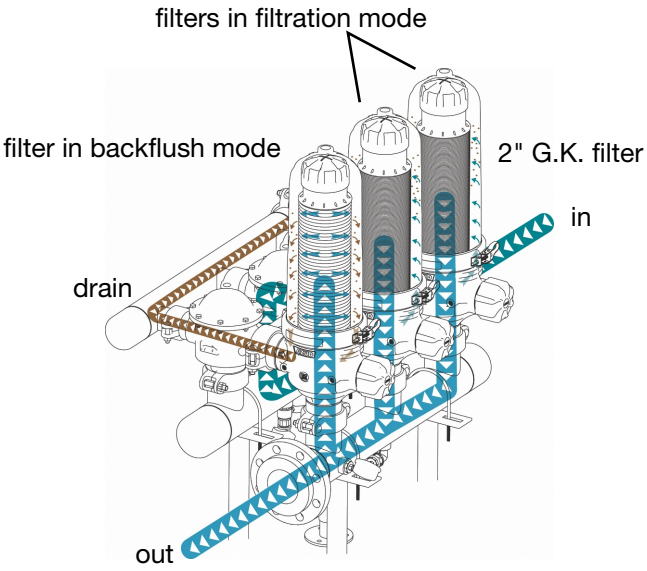
Manual
Galileo L

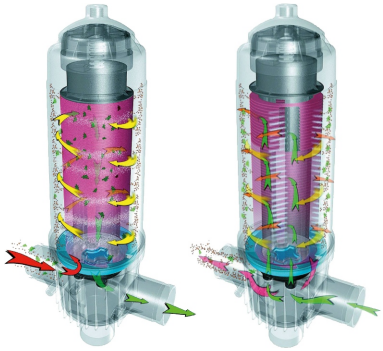
General instructions:
The **UDI** Galileo is designed and manufactured to meet the highest standards of quality and workmanship. The Galileo L is compact and has a low volume with a minimum use of rinsing water. Continuous service is possible by placing multiple parallel filter elements. The diagonally grooved discs provide a deep filtration effect. The filters are delivered with the filter discs of your choice.

Operation:
Raw water flows through the inlet manifold and through the back flush valves to the G.K. filter elements. In a turning movement the water flows along the filter element - the coarser dirt is caught on the surface of the discs and the finer particles are caught in the disc pack. Through the filter element, the filtered water flows to the outlet manifold.

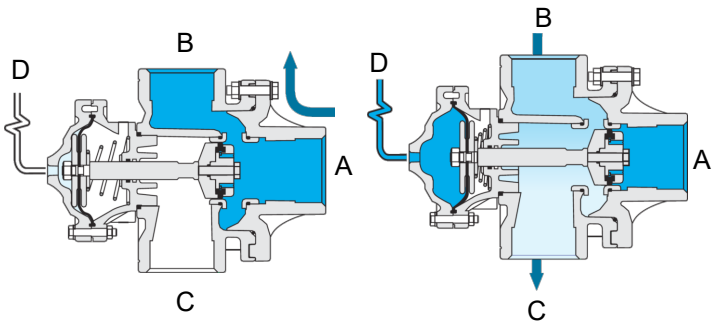
Self-cleaning process:
When the flush controller (optional) detects a pressure differential of 0.5 bar over the inlet and outlet or a pre-set interval passes, the self-cleaning process will start.
The filter elements are flushed one by one by changing the status of the backflush valves (Bermad 350 series) from filtration mode to backflush mode. Filtered water is taken in from the outlet manifold or the external flushing pipe respectively and jet-sprayed through the nozzles in the G.K. filter element tangentially against the filter discs. The differential pressure makes the discs packet open up and the rotating discs are being cleaned. The rinsing water is drained through the drain manifold. After 10 - 20 seconds the backflush valve goes back into filtration mode, causing the discs packet to close and the filtration to resume. After cleaning the filter discs, the cleaning of the next filter element will start with an interval of 5 - 10 seconds. This prevents two backflush valves being opened at the same time.
Boxer filters with duo elements are cleaned simultaneously.
Externally flushed filters are provided with 2 backflush valves per filter in order to select the feeder source for clean water during flushing.



Galileo L	2 - 8 filters
Galileo L Ext.	1 - 8 filters
Galileo L Boxer	3 - 8 duo filters
Galileo L Boxer Ext.	3 - 8 duo filters



Filtration Flushing



Filtration mode Backflush mode

a) Raw water intake
b) To filterelement
c) Drain water outlet
d) Command tube diaphragm for activating backflush mode

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Notes:
By regularly checking the inlet and outlet pressure and monitoring flushing you will become familiar with the automatic filter.
This way one can optimise the proper flushing frequency. Take into account seasonal influences and possible accumulation of dirt on the discs.
The pressure loss caused by dirt should not exceed 0.5 bar.

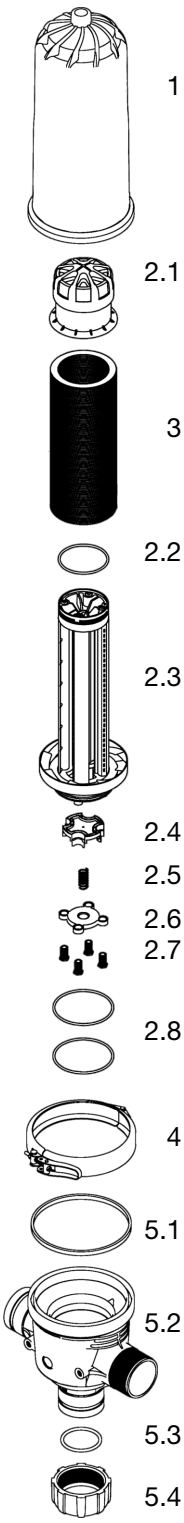
Flushing pressure:
The minimum flushing pressure is 2.8 bar up to 5 bar depending on the fineness of the filter discs and type of fouling. Fine filter discs and viscous dirt require a higher flushing pressure.
A pressure sustaining valve must be installed downstream of the Galileo L if the flushing pressure is too low.
With a single filter element, the Galileo L compact, or the non-flushing filters cannot supply enough water, or a uniform continuous service capacity is desired, a filter with external source must be used.
For filters with an external source the pump has to reach the required pressure before the flushing actually starts.

Installation:
Mount the filter at a location easy to reach for maintenance. The filter is preferably be mounted level with free drainage.
When the pump pressure is not adequately under control, a pressure release valve must be installed.
Place if necessary valve(s) for servicing.

Maintenance:
Check the filter for function every 2-3 weeks, check differential pressure and leakages. If a component is defective replace it immediately.
Apply annually a layer of non-aggressive grease on the rubber components. The disc packet must be cleaned by hand once a year or more frequently if this proves to be necessary.
Close the upstream of the filter.
Do not open the filter when it is operating or is pressurized. Open a valve to release pressure .
Remove the filter cap(s) (1) by releasing the clamp (4). Unscrew the pressure cap (2.1) on the element by hand and remove it.
Place the discs back on the holder (2.3), making sure that the correct number of discs are put back. Remove the discs (3), keep them together as a packet with a cord and spray them clean with a powerful water jet. When this is not enough, the disc packet can be submerged in a diluted solution of hydrochloric acid or sodium hydroxide for 4 hours. Then rinse them off with water. To decelerate growth of algae, plankton, etc. one can submerge the rings in a 5% diluted solution of chlorine bleach. All O-rings and other rubber elements must be greased regularly with silicon grease for optimal functioning of the filter. Discs smaller than 100 microns should be positioned with the striated side faced up.
The length of the disc pack is important and must be 350-355mm. The correct height can also be felt on the holder. The diameter of the holder is marginally thinner here. Fit the pressure cap and tighten it hand-tight. Replace the filter cap back and fit the clamp. Be aware of your fingers.

Notes:
Each filter comes with this manual which includes the installation, operating, and maintenance instructions.

In view of on-going improvements, we reserve the right to change specifications at any time without prior notice.



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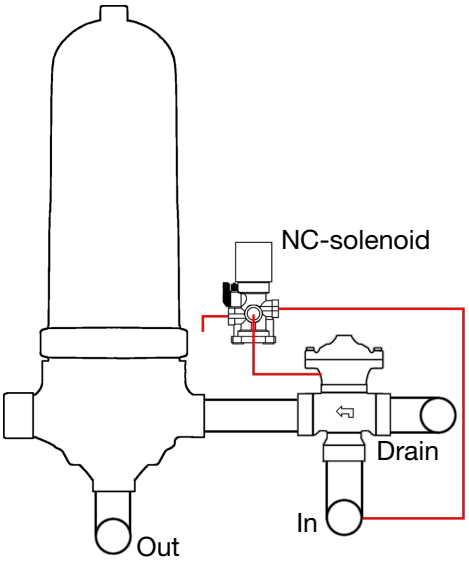
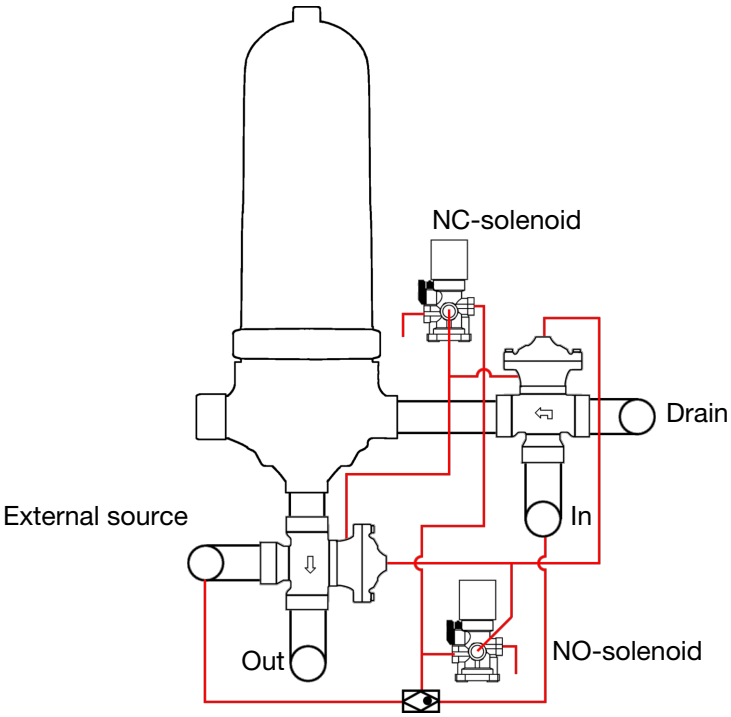
Control scheme:

Galileo L / Galileo L Boxer



Galileo L Ext. /Galileo L Boxer Ext.



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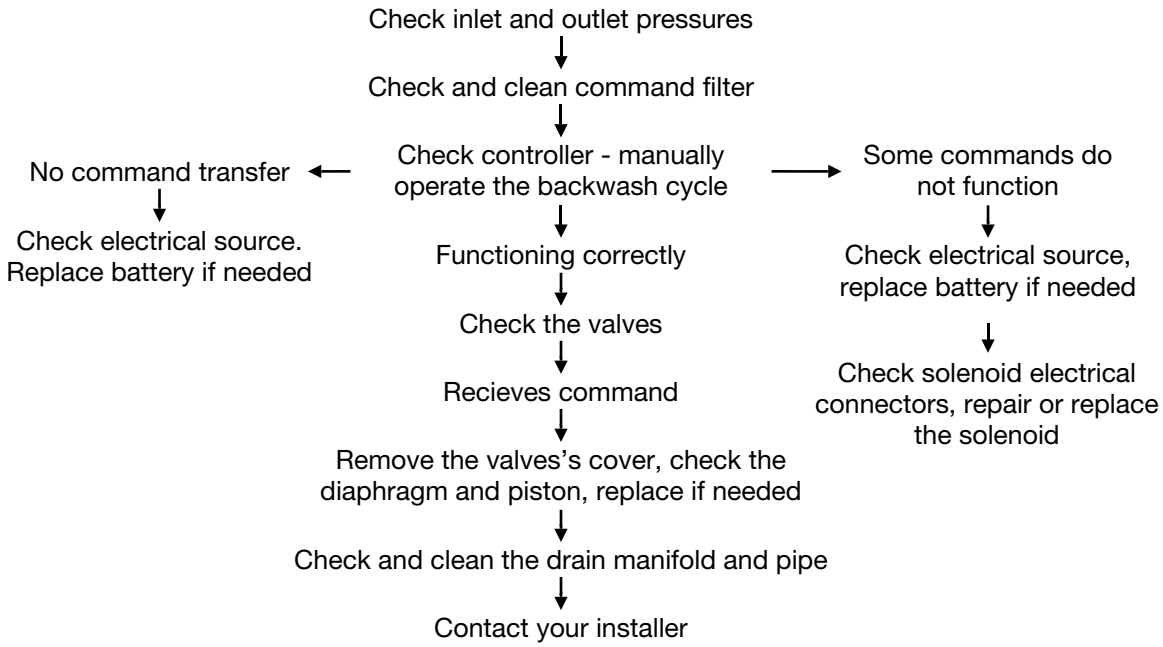
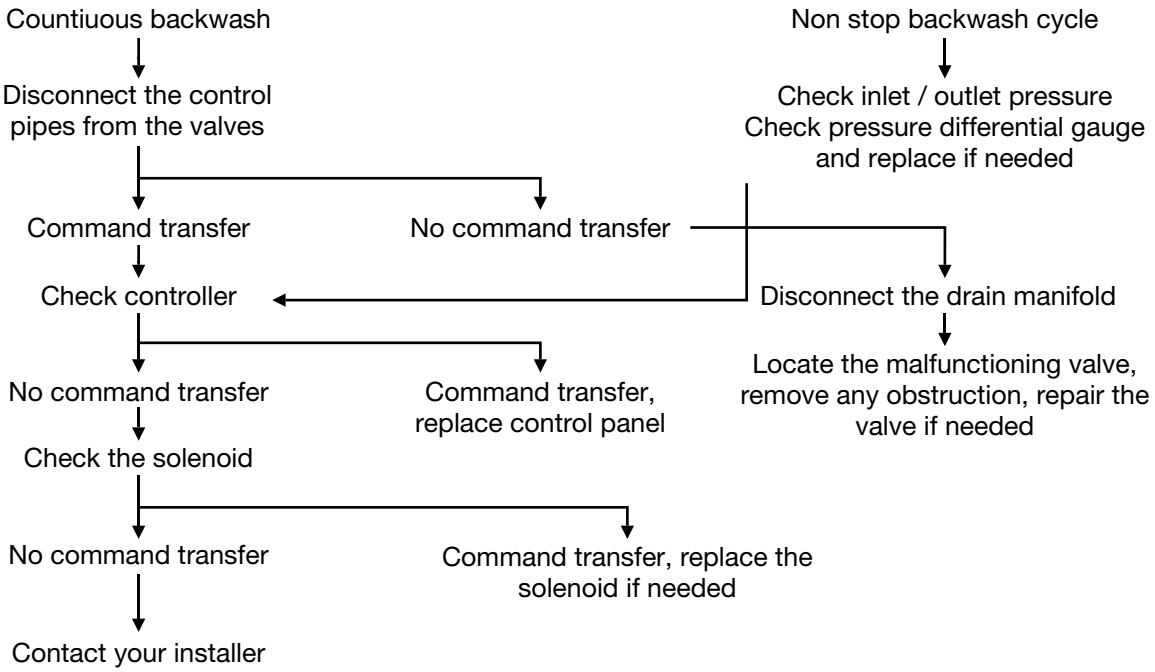
Trouble shooting Galileo L :

No backwash operation



Continous or non-stop backwashing



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Galileo L - Guideline Capacity

Guideline capacity Galileo L:

Number of filter elements		1	2	3	4	5	6
	water quality	m³/h	m³/h	m³/h	m³/h	m³/h	m³/h
400-200 microns	good	36 (a b)	72	108	144	180	216
	fair	32 (a b)	64	96	128	160	192
	contaminated	26 (a b)	52	78	104	130	156
	bad	16 (a b)	32	48	64	80	96
130 microns	good	32 (a b)	64	96	128	160	192
	fair	30 (a b)	60	90	120	150	180
	contaminated	24 (a b)	48	72	96	120	144
	bad	14 (a b)	28	42	56	70	84
100 microns	good	24 (a b)	48	72	96	120	144
	fair	20 (a b)	40	60	80	100	120
	contaminated	18 (a b)	36	54	72	90	108
	bad	12 (a b)	24	36	48	60	72
50 microns	good	17 (a b)	34	51	68	85	102
	fair	14 (a b)	28	42	56	70	84
	contaminated	10 (a b)	20	30	40	50	60
	bad	7 (a b)	14 (a b)	21	28	35	42
20 microns	good	9 (a b)	18 (a)	27	36	45	54
	fair	7 (a b)	14 (a b)	21	28	35	42
	contaminated	5 (a b)	10 (a b)	15	20	25	30
	bad	3 (a b)	6 (a b)	9 (a b)	12 (a)	15	18
10 microns	good	7 (a b)	14 (a b)	21	28	35	42
	fair	5 (a b)	10 (a b)	15	20	25	30
	contaminated	4 (a b)	8 (a b)	12 (a b)	16	20	24
	bad	2 (a b)	4 (a b)	6 (a b)	8 (a b)	10 (a b)	12
5 microns	good	6 (a b)	12 (a b)	18	24	30	36
	fair	4 (a b)	8 (a b)	12 (a b)	16	20	24
	contaminated	3 (a b)	6 (a b)	9 (a b)	12 (a)	15	18
	bad	1 (a b)	2 (a b)	3 (a b)	4 (a b)	5 (a b)	6 (a b)

a.) During flushing, complete interruption of service.
b.) External flushing with filtered water required. (Galileo L Ext.).

The capacity is indicated in the range from bad to good water. The capacity during flushing is lower than during service.

The required flushing pressure depends on the situation and applied micronage.
Please consult your installer with respect to your specific situation.

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Galileo L - Guideline Capacity

Guideline capacity Galileo L Boxer:

Number of duo filter elements		3	4	5	6	7	8
	water quality	m³/h	m³/h	m³/h	m³/h	m³/h	m³/h
400-200 microns	good	216	288	360	432	504	576
	fair	192	256	320	384	448	512
	contaminated	156	208	260	312	364	416
	bad	96	128	160	192	224	256
130 microns	good	192	256	320	384	448	512
	fair	180	240	300	360	420	480
	contaminated	144	192	240	288	336	384
	bad	84	112	140	168	196	224
100 microns	good	144	192	240	288	336	384
	fair	120	160	200	240	280	320
	contaminated	108	144	180	216	252	288
	bad	72	96	120	144	168	192
50 microns	good	102	136	170	204	238	272
	fair	84	112	140	168	196	224
	contaminated	60	80	100	120	140	160
	bad	42	56	70	84	98	112
20 microns	good	54	72	90	108	126	144
	fair	42	56	70	84	98	112
	contaminated	30	40	50	60	70	80
	bad	18 (a b)	24 (a)	30	36	42	48
10 microns	good	42	56	70	84	98	112
	fair	30	40	50	60	70	80
	contaminated	24 (a b)	32	40	48	56	64
	bad	12 (a b)	16 (a b)	20 (a b)	24	28	32
5 microns	good	36	48	60	72	84	96
	fair	24 (a b)	32	40	48	56	64
	contaminated	18 (a b)	24 (a)	30	36	42	48
	bad	6 (a b)	8 (a b)	10 (a b)	12 (a b)	14 (a b)	16 (a b)

a.) During flushing, complete interruption of service.
b.) External flushing with filtered water required. (Galileo L Boxer Ext.).

The capacity is indicated in the range from bad to good water. The capacity during flushing is lower than during service.

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