



Automatic Backwash Disc Filter

MAKING FILTRATION OF DIFFERENCE



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The technical specification of this product manual is only for reference. If there is any change, there will not be notified before.

DAWNING FILTER SYSTEM
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PRODUCT DESCRIPTIONS

Automatic disc filter system with disc filtering element(as below) with 2"/ 3" /4" backwash valves,air valve,manifolds,controller. Easy to install. Automation available in 220V.

*Disc filtering elements are composed of a set of platters with grooves on both sides. The intersection points formed by the grooves' edges will intercept the solids of the water.

*Each filtration module locked by stainless clamps , which is a plastic-injected shell made by highly pressure-resistant polyamide combined reinforced glass fiber materials.

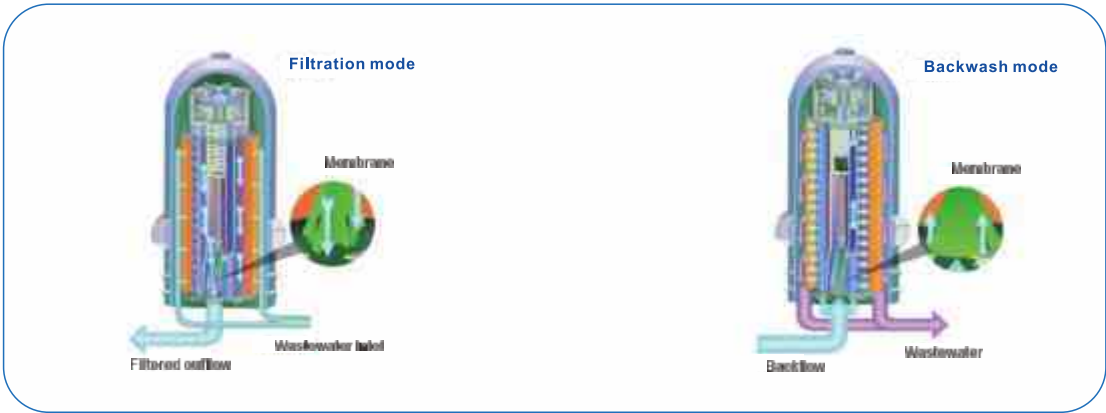
* Filtering frame is a complicated and precised telescopic cylinder structure, which is formed in a single injection.

Hydraulic action components are inside the excellently sealed cylinder structure, effectively prevented clogging failure and prolonged the service life.



- Advantages**
- Fully automatically continuous on-line self cleaning; low water consumption; Low pressure loss.
 - Optimizes the performance and minimizes the frequency of maintenance.
 - Maximum saving of water with efficiency in backwashing.
 - Modular configuration allows design according to customer preference or space availability.

WORKING PRINCIPLE



Under this condition, turbid water flows through the element,which are tightly pressed together by the spring and hydraulic forces.So the particle trapped in the laminated cross points while the filtered water flows out.

When a certain pressure difference or time arrived, the system automatically enters the back washing state.The controller control valves to change the flow direction, the recoil pressure tightens the spring to release the discs.Then the nozzle located on the core pillar jets along the tangent lime, and the discs rotate to flush out the particles.

TECHNICAL PARAMETERS

Working pressure: 2-8 bar
 Back washing pressure: 1.8- 8 bar
 Working temperature: <60℃
 PH value: 4-13
 The filtering module (A) number: 2-10
 Power: 220/110V

FILTER MATERIALS

Water in pipe (B): carbon steel / stainless steel /Plastic;
 Water out pipe (C): carbon steel / stainless steel /Plastic;
 Drainage pipe(D): carbon steel / stainless steel /Plastic;
 Backwash valve (E): steel / plastic
 Filter module(A): reinforced Polyamide(PA)
 Controller (F): full-automatic and international standard IP65.



* Please contact CDFS when need special materials.

DESIGN AND SELECTION OF MODELS

Water quality classification

A.: **Good quality:** city tap water, well water from stable aquifer.

B.: **General quality:** cooled circulating water, surface water treated by sedimentation, and drained water treated by effective deposition and completely biological treatment.

C.:**Relatively poor quality:** groundwater from aquifer of poor quality, drained water treated by effective deposition but with poor biological treatment, and surface water with enormous microbes.

D. **The worst quality:** well water with rich iron and manganese, surface water affected by flooding and without sedimentation, and drained water without precipitation and biological treatment.

Flow of single filtration unit:

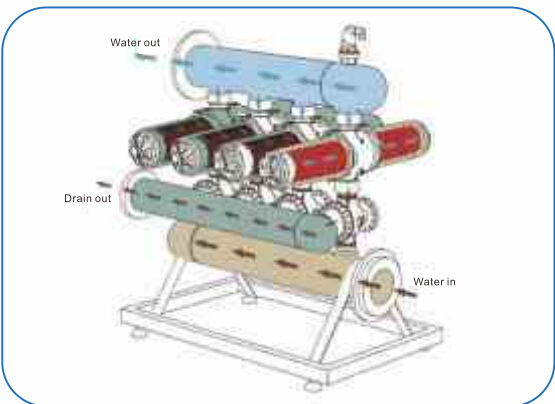
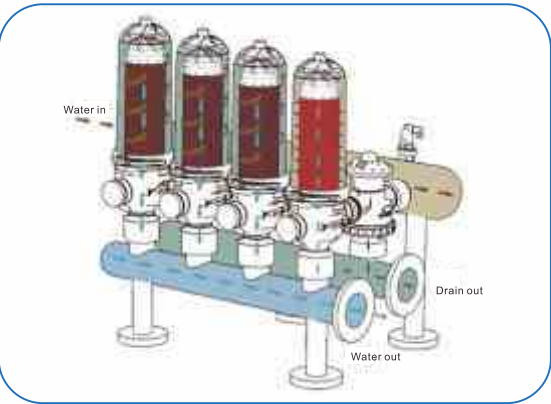
Filtration unit	Precision (μ m)	Back washing flow (m³/h)	Filtration flow(m³/h)			
			Good water quality	General water quality	Poor water quality	The worst quality
2 inch	20	8-11	7	6	4	3
	50		13	11	8	6
	100-130		24	20	18	12
	200-400		24	20	18	12
3 inch	20	20-27	9	7	5	3
	50		17	14	10	7
	100-130		32	29	23	14
	200-400		36	31	25	16
4 inch	20	40-55	18	14	10	6
	50		34	28	20	14
	100-130		64	59	47	28
	200-400		72	63	51	32

Selection of Precision

It is important to selecting disc filtration precision(discs). Several common filtration purpose and filtration precision are recommended as following.

Application of filtration system	Selection of Precision
Pretreatment of high quality water	20μ
Drinking water pretreatment,; water of various production processes; nozzle protection	50μ
Circulating water filtration; Feedwater pre-filtration	100μ
Recycled water treatment; waste water treatment	200μ

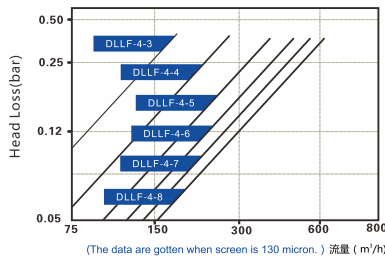
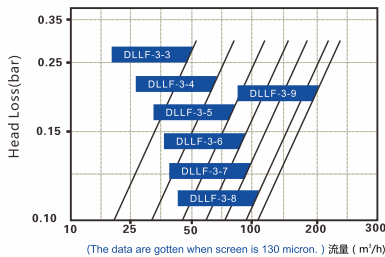
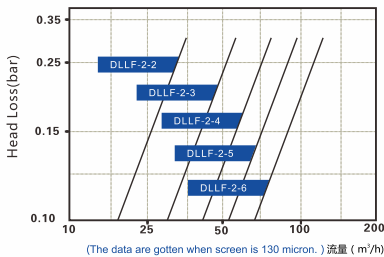
FILTRATION/BACKWASH STATE



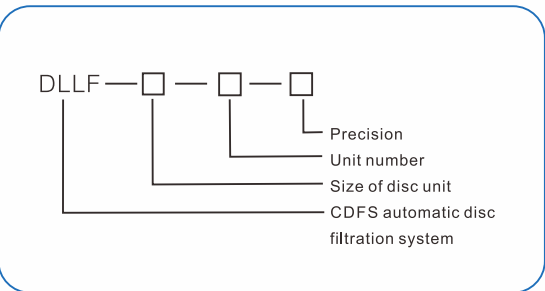
SELECTION OF BACKWASH MODES

1. If water in pressure is larger than (min.backwash pressure + 1.2bar), filtration flow is more than 5 times of the backwash flow, the endogenous backwash mode could be chose, and no need to back pressure valve.
- 2 If water in pressure is larger than min.backwash pressure, and the filtration flow is 1.5 times more than the backwash flow, the endogenous backwash mode could be chosen , but need to add additional pressure holding valve in water outlet.
- 3 In others cases, exogenous backwash mode or collective backwash mode should be chosen.

HEAD LOSS



MODEL CLARIFICATION



TECHNICAL PARAMETERS OF AUTOMATIC DISC FILTER SYSTE

Water quality	Good			General			Poor			The worst		
Filtration precision	200μ	100μ	50μ	200μ	100μ	50μ	200μ	100μ	50μ	200μ	100μ	50μ
Model	flow(m³/h)			flow(m³/h)			flow(m³/h)			flow(m³/h)		
DLLF-2-2	≤38	≤30	≤22	≤29	≤22	≤18	≤21	≤15	≤13	≤13	≤10	≤8
DLLF-2-3	57	45	33	43	33	26	31	22	18	18	14	10
DLLF-2-4	76	60	44	57	44	35	41	30	24	25	19	14
DLLF-2-5	95	75	55	72	88	44	51	37	30	31	23	17
DLLF-2-6	114	90	66	86	66	53	62	45	36	37	28	21
DLLF-3-3	111	90	60	84	66	48	60	45	33	36	28	19
DLLF-3-4	148	120	80	112	88	64	80	60	44	48	37	26
DLLF-3-5	185	150	100	140	110	80	100	75	55	60	47	32
DLLF-3-6	222	180	120	168	132	96	120	90	66	75	56	39
DLLF-3-7	259	210	140	196	154	112	140	105	77	84	66	45
DLLF-3-8	296	240	160	224	176	128	160	120	88	96	75	52
DLLF-3-9	333	270	180	252	198	144	180	135	99	108	85	58
DLLF-3-10	370	300	200	280	210	160	200	150	110	120	94	65
DLLF-4-3	224	176	128	168	129	102	120	88	70	72	55	40
DLLF-4-4	280	210	160	210	154	128	150	105	88	90	65	51
DLLF-4-5	374	294	214	281	205	171	200	147	118	120	91	68
DLLF-4-6	448	352	256	336	258	205	240	176	141	144	109	81
DLLF-4-7	522	410	298	392	301	238	280	205	164	168	127	94
DLLF-4-8	597	469	341	448	344	273	320	234	188	192	146	108

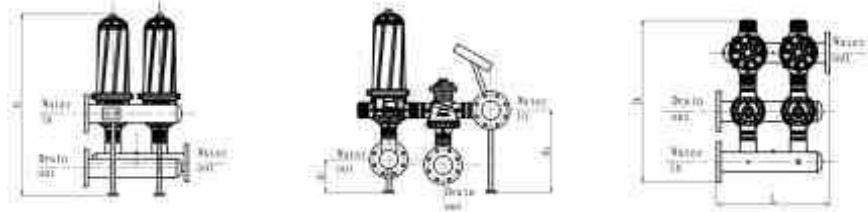
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APPLICATION OF AUTOMATIC DISC FILTRATION SYSTEM

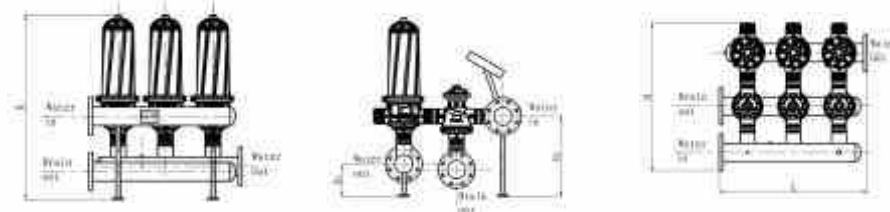
Application	Description	Function	Industry
Circulating cooling water	Cooling water for air conditioner and other facilities	To prevent congestion and pollution of heat ex-changer pipes, nozzle, guarantee the heat exchange efficiency, and save water and energy, as well as improve the concentration ratio of the cooling water	Iron and steel, electric power, automobile, chemical industry, etc
Recycled water	Recycling of wastewater, paper-making water, process water	To remove the particles in water, making water to meet the reuse requirements, and protect equipment pipes, nozzle, products, etc	Electric power, paper-making, steel, automobile, etc
General water	Total feed water, washing water, process water, drinking water	To remove the impurities in water, prolonging the regeneration time or service life of the protected equipment, and save the recoil water and replacement cost	Electric power, chemical industry, automobile Paper making, etc
Protection for water treatment equipment	Protecting the sand filter, resin and elements	To remove large impurities in water, soft impurities and fiber impurities to protect membrane	All industries
Membrane protection	Pretreatment of UF/RO and Ion exchange membrane	To remove impurities and seawater organisms, and the full-plastic system is anti-corrosion	Water treatment
Seawater filtration	Pre-filter of seawater desalination, seawater mariculture, seawater circulating	To remove the impurities in water, prolonging the regeneration time or service life of the protected equipment, and save the recoil water and replacement cost	Water treatment
Waste water treatment	Waste water filtration and discharging; pretreatment of biological water and gray water recycling	To lower BOD and COD particles in water, reducing the impurities and organic living (bacteria, algae and parasites)	All industries
Other chemical fluid	Solvent, emulsion	To meet the production requirements and protection equipment	All industries

■ FILTER SYSTEM SIZE

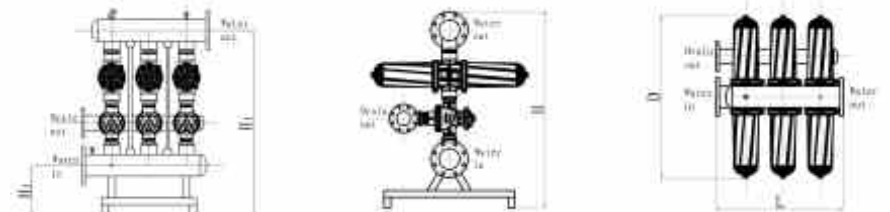
2 INCH SYSTEM



3 INCH SYSTEM



4 INCH SYSTEM



Model	Water in/out (mm)	H(mm)	H1(mm)	H2(mm)	D(mm)	L(mm)
DLLF-2-2-A	89	884.5	150	413	776.5	890
DLLF-2-3-A	108	904	160	432.5	796	1165
DLLF-2-4-A	108	904	160	432.5	796	1440
DLLF-2-5-A	159	944.5	175	473	854	1715
DLLF-3-2-A	108	1049	175	461	875	890
DLLF-3-3-A	159	1074.5	175	486.5	933	1165
DLLF-3-4-A	159	1092	192.5	504	933	1440
DLLF-3-5-A	159	1092	192.5	504	933	1715
DLLF-4-3-A	159	1416.5	1274	282.5	1200	1195
DLLF-4-4-A	219	1531.5	1361.5	310	1200	1470
DLLF-4-5-A	219	1531.5	1361.5	310	1200	1745
DLLF-4-6-A	273	1640.5	1443	337.5	1200	2020
DLLF-4-7-A	273	1640.5	1443	337.5	1200	2295

■ APPLICATION DIAGRAM



HAVC system filtration



Swimming pool water filtration



Paper-making water system filtration



Water source heat pump cooling water filtration



Pretreatment of UF/RO



Water system filtration of one automobile plant



Underground well water filtration



Filtration for agricultural irrigation