

Five Star Disk Filter



TITLE 22 APPROVED



The “ORIGINAL” design utilizing a single piece fixed disk with rotating backwash assembly and the ability to ISOLATE each disk independently.

Five Star Disk Filter

The NEW and INNOVATIVE Five Star Disk Filter is designed as a continuous operating system that utilizes a fixed disk and a rotating backwash system controlled by a PLC control panel. All internal and submerged components are stainless steel or non-metallic materials.

Use of the fixed disk design reduces overall horsepower and permits removal of each individual disk while the filter remains in operation. Each disk can be ISOLATED one from the others, by means of a knife gate valve. The filter disk remain fixed while the center shaft rotates the backwash arms and serves as the header for removal of solids from the filter. At the beginning of a backwash cycle, which is initiated by an increase in head loss across the filter, actuated valves segregate the backwash header and clean the filter disks associated with that portion of the header. The backwash drive unit is capable of operating in alternating directions. This ensures complete cleaning of the filter cloth while minimizing the rate at which reject is returned to the treatment facility.

Performance of the Five Star Disk Filter is second to none. The proprietary cloth is capable of solids capture to 10 micron (an optional 5 micron cloth is available) without having to build up a filter mat or require any run in time. The two-layer cloth allows for complete cleaning, utilizing filtered water from inside the filter disk. The filter cloth is a sealed bag that can be replaced in a matter of minutes while the filter remains in operation without any interruption. With the ability to ISOLATE each disk, 100% media life is achieved.

The Five Star Disk Filter can be designed into a concrete structure (supplied by others), or fabricated from tanks constructed of stainless steel. The Five Star Disk Filter has a unique advantage incorporated into its' design that allows filtrate sampling from each disk individually, as well as being able to ISOLATE and remove each disk from the system without filter shutdown or tank draining. The Five Star Disk Filter design eliminates all rotating seals ensuring consistent filtrate quality and guaranteeing no cross connection between influent and filtrate. Customized 316 stainless steel swivel joints are permanently lubricated eliminating filter maintenance requirements. An upgraded backwash shoe design has eliminated hoses and springs resulting in easier disk removal while the filter is operational along with eliminating frequent maintenance wear items. The backwash shoes are designed so that effective efficient cleaning is accomplished with a minimal contact of the vacuum shoe and the cloth which extends cloth life and reduces impingement of collected solids.

Applications

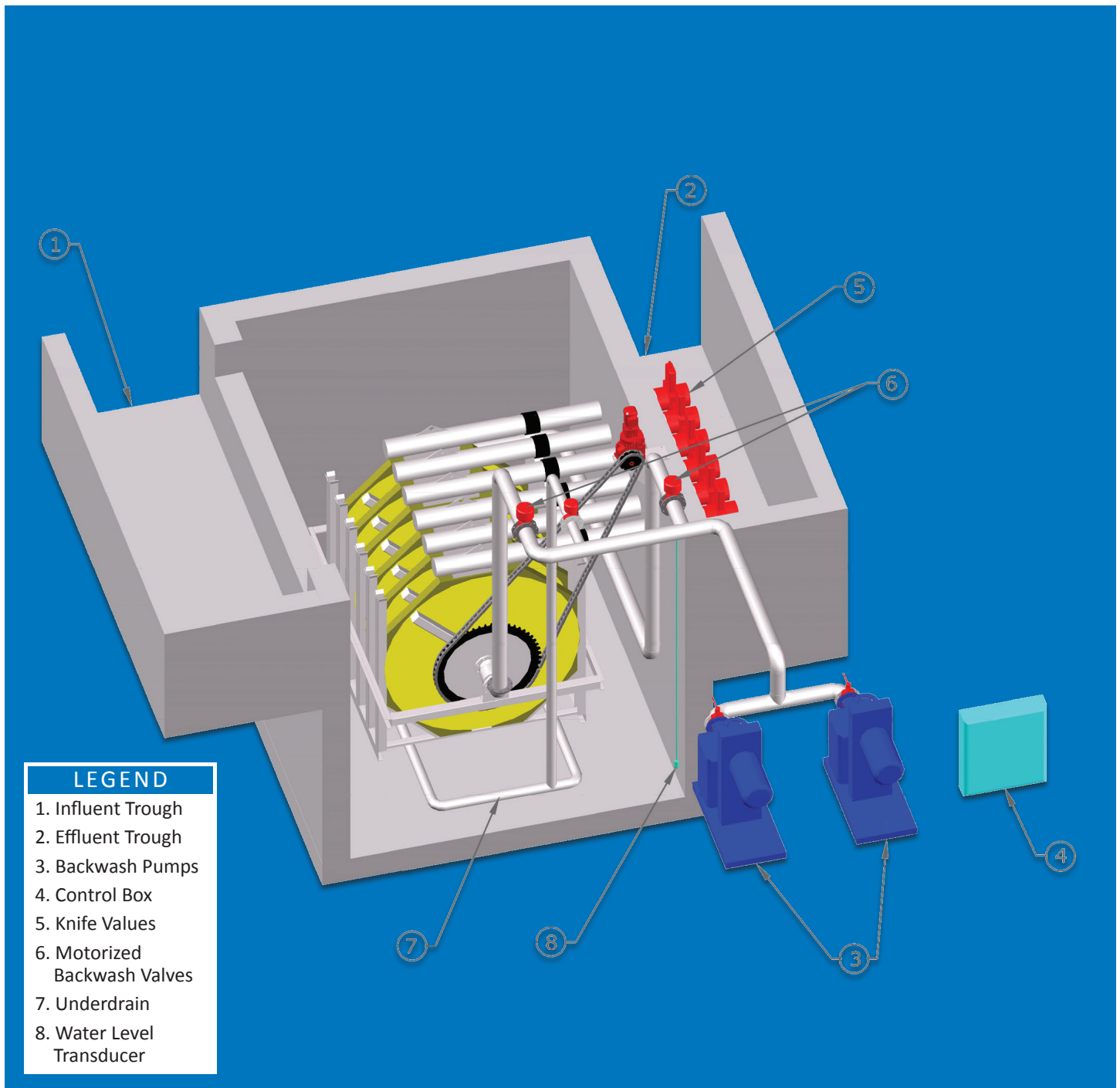
Five Star Disk Filters can be installed into both municipal and industrial applications such as: Tertiary Filtration, Water Reuse, Process Streams and surface Water Treatment.

Features and Benefits

High Quality Filtrate—Title 22 (2 NTU)
Easy Disk Removal
Single Discharge Point for Each Disk
High Solids / Hydraulic Loading Capacities
Un-interrupted Flow During Backwash Cycle

NO Rotating Seal to Maintain
Ultra Low Backwash Rates (<1% Typical)
Small Footprint to Flow Ratio
Easily Expanded
12" Headloss Maximum Required

Five Star Disk Filter



Six Disk Layout–Concrete Structure



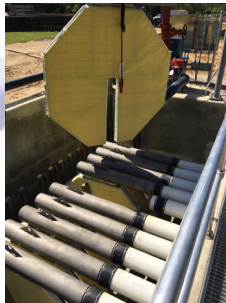
Filter Information and Sizes

Model	# of Disks	Filter Area (ft ²)	Avg.-Peak Flow (gpm)	Dimensions		
				Length	Width	Height
FSDF-2D24D	2	12	72—153	60" Dia.		4'-3"
FSDF-4D24D	4	24	144—306	72" Dia.		4'-3"
FSDF-2D36D	2	24	144—306	72" Dia.		6'-0"
FSDF-4D36D	4	48	288—612	10'-0"	5'-0"	6'-0"
FSDF-6D36D	6	72	432—918	12'-6"	5'-0"	6'-0"
FSDF-2D48D	2	50	300—638	84" Dia.		7'-0"
FSDF-4D48D	4	100	600—1275	120" Dia.		7'-0"
FSDF-6D48D	6	150	900—1913	12'-6"	7'-9"	7'-0"
FSDF-8D48D	8	200	1200—2550			
FSDF-2D54D	2	60	360—765	6'-0"	5'-0"	7'-9"
FSDF-4D54D	4	120	720—1530	10' Dia.		7'-6"
FSDF-4D54D	4	120	720—1530	10'-0"	5'-0"	7'-6"
FSDF-6D54D	6	180	1080—2295	12'-6"	5'-0"	7'-9"
FSDF-8D54D	8	240	1440—3060	14'-6"	5'-0"	7'-9"
FSDF-2D72D	2	112	672—1428	6'-0"	7'-0	9'-6"
FSDF-4D72D	4	224	1344—2856	10'-0"	7'-0	9'-6"
FSDF-6D72D	6	336	2016—4284	12'-6"	7'-0	9'-6"
FSDF-8D72D	8	448	2688—6222	14'-6"	7'-0	9'-6"
FSDF-2D84D	2	144	864—1836	12' Dia.		10'-6"
FSDF-4D84D	4	288	1728—3672	10'-6"	8'-0	10'-6"
FSDF-5D84D	5	360	2160—4590	12'-6"	8'-0	10'-6"
FSDF-6D84D	6	432	2592—5508	12'-6"	8'-0	10'-6"
FSDF-7D84D	7	504	3024—6426	14'-6"	8'-0	10'-6"
FSDF-8D84D	8	576	3456—7344	14'-6"	8'-0	10'-6"
FSDF-9D84D	9	648	3888—8262	17'-6"	8'-0	10'-6"
FSDF-10D84D	10	720	4320—9180	17'-6"	8'-0	10'-6"

** Flows based on CA DPH Title 22 Acceptance. Acceptable flows rates will vary by local governing agencies**



Destin Water Users FSDF-12D54D-C
TBF Retrofit complete 2017

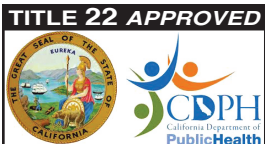


Easy disk removal while balance of
filter remains operational



FSDF-2D36D-FRP Skid Mounted Filter
with Feed & Backwash Pumps
all electrical and plumbing complete
Ideal for small treatment plants, retrofits

Five Star Filtration Disk Filter is covered by one or more patents and/or patents pending.



For more information about Five Star Disk Filters, contact Five Star Filtration, LLC
or our local representative in your area.

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