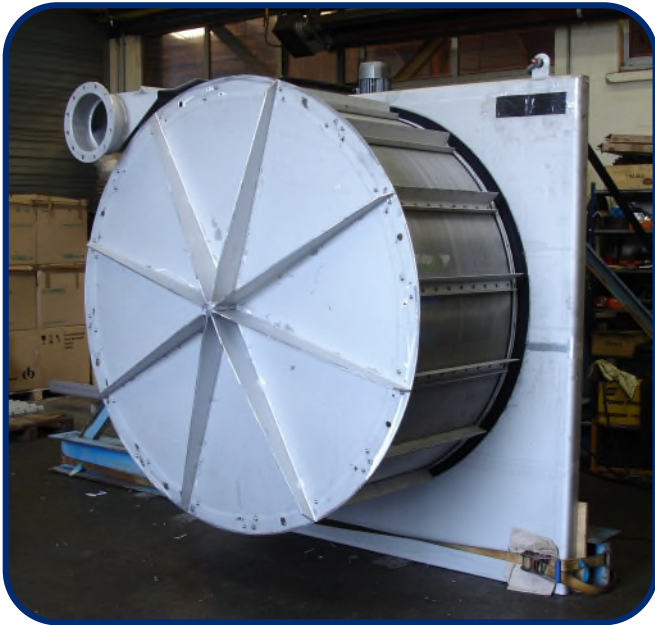


SUBMERGED WATER INTAKE FISH-FRIENDLY (S.W.I.F.F)

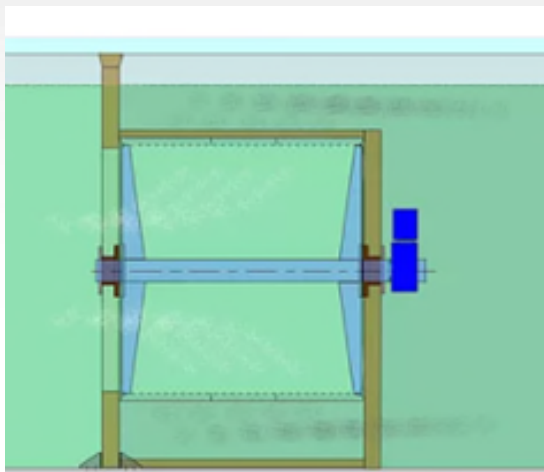


PURPOSE

- ◆ The BEAUDREY SWIFF screen has been developed to overcome marine life mortality problems of traditional screens
- ◆ The BEAUDREY-patented “SWIFF” screen (Submerged Water Intake, Fish-Friendly Screen) is designed to protect all forms of water-life (fish, eels, etc.)
- ◆ It is thus particularly suited where fish-protection is mandatory. It is however also a solution where the maintenance of all other types of screening machines is costly
- ◆ It is particularly adapted where water approach velocity requirements are low

APPLICATIONS

- ◆ Fossil and nuclear power plants
- ◆ Chemical plants
- ◆ Desalinization plants
- ◆ Manufacturing plants
- ◆ Refineries
- ◆ Irrigation



ADVANTAGES

- ◆ Can be retrofitted in any existing screening plant with no alterations to civil works
- ◆ Can be retrofitted to replace almost any type of existing water screen without changing approach velocity and screening surface
- ◆ Uses backwash pumps especially designed to protect fish and eels
- ◆ Totally submerged system which ensures water-life is never removed from the water
- ◆ Fully-submerged screen element held between two vertical wall-plates
- ◆ The surface of the screening element is divided into deep compartments
- ◆ Can be designed with several pumps for redundant applications
- ◆ Main shaft rotation ensured by ball bearings protected by a mechanical sealing device similar to submerged pumps
- ◆ No debris carry-over
- ◆ Resistant to high H2O pressure differentials
- ◆ Installed with NOCLING™ anti-fiber screening panels for water with high fibrous content (screening sieve available)
- ◆ Fewer moving parts than a traditional travelling band screen allows for easier, less frequent and lower-cost maintenance

DESCRIPTION

- ◆ The SWIFF screen is a horizontal cylindrical drum-shaped structure the surface of which consists of a screening element divided into deep compartments
- ◆ Life-forms are collected in the deep compartments of the submerged cylinder's external surface. As the drum rotates, each compartment passes in front of the backwash suction scoop which removes the debris by reversing the flow through the mesh
- ◆ The screen normally rotates at low speed with the pump in service and switches to high speed if, in spite of the low-speed rotation, the head-loss continues to rise
- ◆ The screen is designed to be lifted up using an existing overhead crane. It is then locked into position on deck and all the items requiring maintenance are fully accessible from the deck
- ◆ Reverse rotation is provided should large debris block the SWIFF screen's operation
- ◆ All equipment can be lifted out of the water in four hours or less for inspection. It has fewer moving parts than a traditional travelling band screen which allows for easier, less frequent and lower-cost maintenance, and also allows it to hold up in continuous operation
- ◆ The SWIFF screen has been designed to minimize the time a fish is in contact with the screen. The rotating screening wheel can be completely cleared in one minute

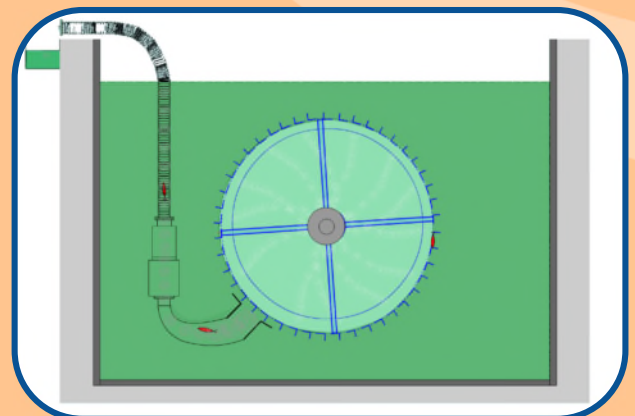
SIZE TABLE

SWIFF SCREEN SIZES FOR 1x1 mm TO 2x2 mm MESH APERTURE 0,15 m/s APPROACH VELOCITY OUTLET VELOCITY LIMITED TO 1,1 m/s (see note 1 below)									
EXTERNAL DIAMETER OF ELEMENT (mm)	1 MODULE - 1 PUMP			2 MODULES - 2 PUMPS			3 MODULES - 3 PUMPS		
	SWIFF FLOW RATE CAPACITY (m ³ /h)	SWIFF PUMP FLOW RATE (m ³ /h)	FLOW RATE IN INLET CANAL (m ³ /h)	SWIFF FLOW RATE CAPACITY (m ³ /h)	SWIFF PUMP FLOW RATE (m ³ /h)	FLOW RATE IN INLET CANAL (m ³ /h)	SWIFF FLOW RATE CAPACITY (m ³ /h)	SWIFF PUMP FLOW RATE (m ³ /h)	FLOW RATE IN INLET CANAL (m ³ /h)
900	560	110	670						
1200	1450	200	1650						
1500	2000	280	2280	3300	230	3760			
1800	2500	300	2850	5100	300	5700			
2200	3200	280	3480	6400	280	6960			
2500	3700	280	3980	7500	280	8060			
2800	4200	260	4460	8400	260	8920	12500	260	13280

NOTE 1: Outlet water velocity can be increased according to site's main pump arrangement, giving the possibility of additional modules
 NOTE 2: Module limited to 1,5 can be increased to 1,6
 NOTE 3: SWIFF screen flow rate capacity corresponds to the flow rate of the downstream canal

MATERIALS

- ◆ Wall plate: painted carbon steel or stainless steel (304L, 316L, Duplex or Super Duplex)
- ◆ Cylindrical screening structure: stainless steel (304L, 316L, Duplex or Super Duplex)
- ◆ Screening medium: Stainless steel mesh, composite screening medium
- ◆ Nuts and bolts: Duplex stainless steel or Super Duplex



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