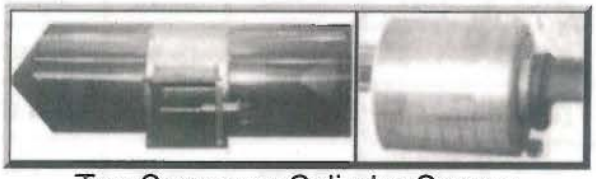
AR 231

Industrial Screen Products

Water Intake Screen Selection

There are several factors to be considered when selecting the appropriate surface water intake screen design.

Select the intake screen type



Tee Screen or Cylinder Screen

If a current is present, tee intake screens with cones mounted on the upstream end can be used to provide streamlining and deflect debris. Tee intake screens can also reduce the number of outlet connections required. Tee intakes may be the answer to shallow water problems. The Tee screen design can be practical for large capacity installations.

Cylinder intake screens may be more suitable for lakes and reservoirs. They are sufficient for low capacity applications. Cylinder intake screens can be less expensive.

Select the wedgewire size (wire width)

Generally, .069" wide wedgewire is used for slot openings less than 1/4". For larger slot openings, 125" wide wire can be used.

Select the screen size(diameter)

Selection of the intake screen size is based on capacity calculations which rely on the appropriate governmental regulations regarding the flow velocity and slot opening.

The capacities shown on the chart below were determined using the following criteria.

.5 fps maximum through slot velocity or .4 fps maximum approach velocity based on a clean screen with .069" slot openings and .069" wire width.

Model	Screen Area	Capacity		Water Depth

Dia (in)	(sq ft)	Max thru slot vel .5 FPS		Max approach vel .4 FPS		Min (in)
		CFS	GPM	CFS	GPM	
Cyl - 24	12.6	2.24	1,007	3.59	1,612	48
Tee - 18	14.1	2.52	1,133	4.03	1,810	36
Cyl - 27	15.9	2.84	1,275	4.54	2,038	54
Cyl - 30	19.6	3.50	1,574	5.61	2,519	60
Tee - 24	25.1	4.48	2,015	7.18	3,224	48
Tee - 30	39.3	7.01	3,148	11.22	5,038	60
Tee - 33	47.5	8.48	3,809	13.58	6,097	66
Cyl - 48	50.3	8.97	4,030	14.36	6,447	96
Tee - 36	56.5	10.10	4,534	16.16	7,256	72
Cyl - 54	63.6	11.36	5,100	18.18	8,163	108
Tee - 42	77.0	13.74	6,171	21.99	9,873	84
Cyl - 60	78.5	14.02	6,297	22.44	10,075	120
Tee - 48	100.5	17.95	8,060	28.72	12,895	96
Cyl - 72	113.1	20.19	9,068	32.31	14,507	144
Tee - 54	127.2	22.72	10,201	36.35	16,321	108
Cyl - 84	153.9	27.49	12,342	43.98	19,747	168
Tee - 60	157.1	28.04	12,594	44.88	20,151	120
Tee - 66	190.1	33.94	15,239	54.3	24,380	132
Tee - 72	226.2	40.39	18,136	64.63	29,019	144
Tee - 78	265.5	47.40	21,284	75.85	34,056	156
Tee - 84	307.9	54.98	24,685	87.96	39,494	168

Check the water depth

The available water depth should be at least twice the diameter of the intake screen. Use the chart above to determine if the water depth is sufficent for the selected intake screen. If not, pick a smaller screen diameter intake screen which may be used in the available water depth. Use the appropriate number of this size of intake to achieve the desired capacity.

Air Burst Backwash System

Air burst systems are recommend unless the water is clean or if sufficient water current is present to keep the screen clean.

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