

Design flaws in conventional Traveling Bridge Filters can cause failures which result in unexpected downtime and unplanned-for maintenance expense.

7 costly Traveling Bridge Filter problems— and how to avoid them

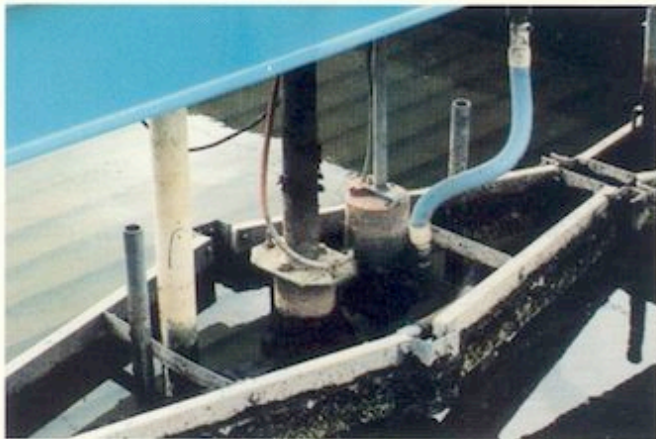
Lurking beneath the surface of conventional Traveling Bridge Filters are performance problems waiting to happen. Faulty design, "erector set" construction, and ineffective backwash can add up to lots of downtime and unexpected maintenance expenses not in your budget.

Here are seven of the most common problems that can occur when you install conventional Traveling Bridge Filters in your treatment system—along with how Davco's filter design can eliminate these costly TBF problems.



Davco's revolutionary new design means better performance and a dramatic improvement in reliability which minimizes shut-downs and failures.

**PROBLEM #1:
OFF-LINE DOWNTIME
FOR MAINTENANCE ON
UNDERWATER MECHANISMS**



Conventional TBF problem #1—underwater mechanisms mean off-line downtime for maintenance

IN CONVENTIONAL TRAVELING BRIDGE FILTERS:

Mechanisms with moving parts—including two submersible pumps, a sliding friction mechanism, and surface skimmer with additional pump(s)—are under water. For service and maintenance, the filter must be taken off line and dewatered.

THE DAVCO ALTERNATIVE: Our design is different. All mechanisms are above water for quick and easy service—eliminating the need to shut-down the filter for mechanical maintenance.

COST SAVINGS: Typical annual maintenance savings of \$6,010.00.

**PROBLEM #2:
OFF-LINE DOWNTIME FOR
FILTER BED MAINTENANCE**



Conventional TBF problem #2—solids accumulation on surface of media means off-line downtime for maintenance

IN CONVENTIONAL TRAVELING BRIDGE FILTERS:

The bridge moves continuously. Result: Inadequate backwash causing the need for frequent dewatering and manual cleaning of the filter media resulting in partial bed replacement.

THE DAVCO ALTERNATIVE: In the Davco design, the bridge pauses over each compartment, sealing the backwash hood to the cell. Each filter cell is backwashed *individually*—positively assuring thorough cleansing of the media.

COST SAVINGS: Typical annual maintenance savings of \$3,440.00.

**PROBLEM #3:
FILTER MEDIA LOSS
THROUGH THE UNDERDRAIN**



Conventional TBF problem #3—depressions in filter bed indicate media loss through the underdrain

IN CONVENTIONAL TRAVELING BRIDGE FILTERS:

The underdrain is segmented and assembled from multiple pieces. Filter media can leak through joints between segments into the backwash plenum.

THE DAVCO ALTERNATIVE: Our underdrain is one continuous piece with no seams. Media loss through underdrain joints is eliminated.

COST SAVINGS: Typical cost to replace media is \$1,884.00 per year.

**PROBLEM #4:
MIGRATION OF FILTER MEDIA
TO THE ENDS OF THE TANK**



Conventional TBF problem #4—filter media migration to tank ends

IN CONVENTIONAL TRAVELING BRIDGE FILTERS:

The hood is not sealed to the cell. As the hood sweeps the filter bed, media moves in the direction of travel, pulling it to either end of the tank.

THE DAVCO ALTERNATIVE: By backwashing each compartment individually, Davco prevents media migration, ensuring continuous and reliable filtration.

COST SAVINGS: Typical cost is \$3,660.00 per year.

**PROBLEM #5:
UNDERDRAIN FAILURE**



Conventional TBF problem #5—channeling indicates underdrain failure and loss of filter media

IN CONVENTIONAL TRAVELING BRIDGE FILTERS:

Due to design and installation techniques, underdrain plates can break or fall out of their retainers, resulting in complete underdrain and filter bed replacement.

THE DAVCO ALTERNATIVE: One piece underdrain construction, an extra-wide ($1\frac{5}{16}$ " lip on the cell divider, and our modular installation methods eliminate this problem.

COST SAVINGS: Average cost of underdrain repair is \$56,500.00 per occurrence.

**PROBLEM #6:
BRIDGE DERAILMENT**



Conventional TBF problem #6—bridge derailment caused by side load on bridge from sliding shoe

IN CONVENTIONAL TRAVELING BRIDGE FILTERS:

The weight of the backwash pump and friction from the sliding shoe suspended from one end of the bridge causes a side load on the bridge. This increases the chance of derailment and resultant filter down-time for repairs.

THE DAVCO ALTERNATIVE: In our design the sliding shoe is eliminated, therefore there is no side load to cause derailment.

COST SAVINGS: Typical annual repair cost is \$2,810.00.

**PROBLEM #7:
EXCESSIVE BACKWASHING**

IN CONVENTIONAL TRAVELING BRIDGE FILTERS:

Inefficient backwash performance causes the need to perform backwash more often than is desirable, resulting in excessive hydraulic recycle to the treatment process.

THE DAVCO ALTERNATIVE: Backwash length is programmed by the operator, ensuring that the filter media is cleaned thoroughly with each backwash cycle.

COST SAVINGS: \$3,056.00 in backwash costs per year.



Davco's revolutionary new design means better performance and a dramatic improvement in reliability which minimizes shut-downs and failures.

For more information on how to avoid Traveling Bridge Filter problems in your treatment plant, write Davco today or call 1-800-841-1550 (in Georgia call 1-912-226-5733).

Estimated costs are based on a single 5 MGD system.



MEETING THE GROWING DEMAND FOR CLEAN WATER

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