

Activated Sludge Recycle Systems

For Secondary Clarifiers



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Operating flexibility of pre-engineered simplicity, the choice is yours...

Suction sludge removal systems provide fast efficient solids withdrawal for activated sludge flow-sheets requiring a steady return of fresh, active biomass. Broadly speaking, these systems fall into two categories. One type maintains separate collection streams from multiple pick-up points (riser pipes) along the rake arm. The other uses a single collection header with carefully proportioned orifices to ensure a uniform removal rate across the basin floor. While riser pipe systems offer the operator exceptional flexibility in dealing with variations in sludge settling characteristics, the single header option provides operational simplicity where solids loading

and characteristics are regular and predictable. We provide whichever equipment option best suits your plant requirements.

Our Type C3S Collector Multiple collection streams for maximum flexibility

The Type C3S removal system uses separate riser pipes to convey solids from pick-up points along a structural rake arm to a collection drum on the center column. Open-top gate valves on each line allow the relative flow rates to be individually adjusted, and permit both visual inspection of sludge flow and sampling to determine concentration. Return activated sludge is pumped from the sludge collection drum via a discharge pipe within the center column. Additional solids are re-

moved by raking to a sump at the base of the clarifier.

The ability of the C3S system to allow adjustment of the relative withdrawal rate from different areas of the basin floor means that irregularities in the depth, density and age of the sludge blanket can be remedied, giving operators "hands-on" quality control of the recycle stream. In addition, the relatively large diameter of the riser pipes - from 4" to 10" depending on the size of the clarifier - makes the C3S intrinsically clog-resistant. Should a line become clogged, however, backflushing through the valve or concentrating the available head will usually free the obstruction without dewatering the basin.



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Our Type C3D Collector Single tube header for uniform withdrawal and simplified operation

EIMCO C3D collectors feature a fabricated header tube connected to a manifold at the base of the center column. The header is designed with a tapered cross-section and carefully sized and positioned intake orifices so that collection rates at each orifice are proportional to the unequal areas swept by the corresponding

sections of header. The result is a pre-engineered system which allows for uniform withdrawal rate across the entire basin floor at a given flow. Laboratory test data confirming flow uniformity in our designed headers is available on request. Because precise balancing of flow along the header often dictates small orifice diameters close to the center, the unitube design is most successfully employed where plant influent is effectively and

thoroughly screened and solids settling characteristics are normal.

Unlike competitive single tube header mechanisms, all sizes of the C3D are supported from a structural steel cage and truss arm assembly, assuring adequate support for ALL turning loads and stresses.



Partial Installation Lists*



C3s Clarifiers

Location	No.	Size	Engineer
Roger Road STP, Tucson, AZ	1	105'	Black & Veatch
Richmond, IN WWTP	4	105'	Clark, Dietz & Associates
Ft. Meyers South WWTP, FL	4	110'	Flood & Associates
Quinnesee, MI	2	190'	Brown & Root
Warren, OH WWTP	4	125'	Havens & Emerson
Salado Creek, Elmendorf, TX	3	140'	CH2M-Hill/Lockweed, Andrews & Newman
Springdale, AR WWTP	4	120'	McGoodwin, Williams, Yates
Glades Rd. STP, Boca Raton, FL	3	110'	Camp, Dresser & McKee
Rock Creek WWTP, Hillsboro, OR	2	140'	CH2M-Hill
Ironbridge/Orlando, FL	8	100'	Post, Buckley, Schuh, jernigan
Williamsburg/Hampton Rd., VA	3	152'	J.M. Montgomery
Menasha-Wisconsin Tissue	2	105'	Donohue & Associates
Parsons & Whittemore, AL	2	200'	Simons Eastern Consultant
Palm Beach Co., FL	4	100'	Hazen & Sawyer

C3D Clarifiers

Central Valley WWTP, S.L.C., UT	8	125'	Coon, King & Knowlton/Brown & Caldwell
Landis Sewerage Authority, Vineland, NJ	2	110'	CH2M-Hill
Pinetop WWTP, Lakeside, AZ	2	60'	Brown & Calkwell
Myrtle Beach, FL	2	105'	Consoer Townsend
Pueblo WWTP, CO	3	120'	Sellards & Grigg
North San mateo, CA	3	70'	John Carollo Engineers
Pinellas Co., FL	4	85'	Briley, Wild & Associates
Chinos Basin, CA	2	130'	J.M. Montgomery
Encina WWTP, CA	3	105'	John Carollo Engineers
Trenton WWTP, MI	4	65'	McNamee, Porter, Seely
Fairforest WWTF, Spartangurg, SC	1	115'	HDR
Stillwater WWTP, CA	2	80'	CH2M-Hill

*These are representative selections from an installed base of over 2,000 suction clarifiers